Master's Level Research in Second Language Teaching and Learning (Canada, 2008-2010): Paradigms, Methods and Analyses

by

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Abstract

This thesis surveys Canadian graduate student research at the Master’s level, on the topic of Second Language Teaching and Learning within Applied Linguistics. A collection of theses (n=58), published from 2008 to 2010, were analyzed using content analysis, in terms of their research paradigms (i.e. Quantitative, Quantitative Mixed, Mixed, Qualitative Mixed, Qualitative), their use of research methods (e.g. Experiment, Case Study) and their statistical analyses (i.e. descriptive and inferential, both parametric and non-parametric).

Though quantitative research dominated as the preferred paradigm, qualitative and mixed methods research were more highly represented when compared to previous studies investigating the paradigms used in academic journal article research.

The findings of this study provide insight into research design characteristics used in recent Master’s student work and may benefit graduate student researchers, faculty members, academic administrators and other stakeholders providing support to Master’s students, particularly within the field of Second Language Teaching and Learning.
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The Carleton University Library provided access to resources that were essential to my research work; online databases such as the ProQuest Dissertations and Thesis Database (PQDT) and Linguistics and Language Behavior Abstracts (LLBA). I spent many hours using the reference collection in addition to regular use of the general collection of books. I am truly grateful for the library and its resources as I relied on them heavily in this thesis work.

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Chapter 1 – Introduction

1.1 Background and Rationale

According to Statistics Canada data, the number of graduate students registered in Canadian Master’s level programs in the social and behavioral sciences is steadily increasing, from approximately 9000 students in 1992 to approximately 14000 students in 2008 (CANSIM II, 2010).

One of the key challenges to graduate students completing their degree is determining their thesis research topic. While living in a graduate student dormitory, I often received advice and words of encouragement from my fellow graduate students, many of whom were struggling with their own thesis or dissertation work. I often heard that “choosing your thesis topic is half the battle” or “the hardest part about doing a thesis is choosing the topic.” Indeed, determining the scope and focus for a research study is a challenge for any researcher.

However, graduate students, especially those at the Master’s level, may face unique challenges. Master’s students tend to be exposed primarily to research published in academic journals. These articles are usually written by more experienced researchers who may have access to more funding, more sophisticated lab facilities and the ability to commit to longer term projects. Master’s students themselves, however, may have fewer of these resources available to them. That is, they may have less experience, funding, access to facilities and they may be less able to provide the long term commitment to a project that would answer the research questions that most interest them.
This may be one explanation for the difficulties that some Master's students face when trying to determine a thesis topic that is interesting to them but one that is also of a realistic scope. Because they have been exposed primarily to research conducted by more experienced researchers, they may find it difficult to determine a topic and methodology that is realistic to their circumstances as a Master's student.

As a novice researcher with limited resources, I decided to look to the work that had been completed successfully by my peers. I hoped that their work could give me ideas and help me understand what scope I could realistically aim for. I decided I would informally survey the theses completed by other Master's level graduate students who were also striving to answer questions relating to Applied Linguistics or, more specifically, Second Language Teaching and Learning. My hope was to better understand the range of methodologies and other characteristics about research design that had worked for others who were in a situation similar to mine.

Around this same time, I was enrolled in a class, LALS 5002, with Dr. Janna Fox. This course introduced me to "Strategies of Inquiry in Applied Linguistics and Discourse Studies" and explored various research paradigms, methods and statistical analyses. In class, we looked at the previous research done by Lazaraton (2005) which had counted the number of qualitative and quantitative designs used by researchers in Applied Linguistics, especially on Second Language Teaching and Learning topics, based on articles published in academic journals. I felt that I could build on Lazaraton's research with the
results of my survey of Master’s student research in Second Language Teaching and Learning.

1.2 Research Questions

The purpose of this study was to determine the characteristics of recent Master’s student research in Second Language Teaching and Learning, in terms of the use of Research Paradigms, Research Methods, and Statistical Analyses, if any. These results were compared to the results of previous studies that had looked at articles published in Applied Linguistics or Second Language Teaching and Learning academic journals.

In addition to the three primary research questions that guided the study, there were five secondary research questions which aimed to provide further insight into the characteristics of the thesis work completed by Master’s students in Second Language Teaching and Learning from 2008 to 2010.

Primary Research Questions

RQ1. Which research paradigms were most used in recent Second Language Teaching and Learning Master’s level research?

RQ2. What research methods were most used in recent Second Language Teaching and Learning Master’s level research?
RQ3. What statistical analyses were most used in recent Second Language Teaching and Learning Master's level research?

Secondary Research Questions

RQ4. How many/what percentage of theses used the words qualitative, quantitative, mixed and triangulation?

RQ5. How many/what percentage of theses gathered their data via human participants? Of these, what percentage mentioned ethical considerations in their report?

RQ6. How many/what languages were considered as Base and Target Languages in these theses? What languages were represented the most?

RQ7. What was the average number of pages of these theses?

RQ8. What was the average number of references cited in these theses?

1.3 Research Benefits

Several groups of academic stakeholders may benefit from the findings of this research. These stakeholders include a) Master’s students and other researchers, b) instructors, librarians and others who provide support to graduate students and c) thesis supervisors and administrators of Master’s programs, particularly those within the field of Second Language Teaching and Learning.
Master's students and other researchers may benefit from having an understanding of the research design characteristics used successfully by their peers. Alternatively, knowing which research design characteristics were not strongly represented in this collection may lead other researchers to explore areas where gaps seem to exist. Also, the variety of research design characteristics represented in the results may inspire researchers with research possibilities that they had not previously considered.

Instructors and librarians supporting Master's students may benefit, additionally, from observing the scope of Master's student research completed from 2008-2010. That is, being aware of the range of methods used or the range of statistical analyses used, an instructor may be better able to determine what to focus on in a course on research methods and a librarian may be better able to ensure access to more appropriate information resources and services.

Thesis supervisors and administrators of Master's programs may benefit from knowing the range of Master's student work being accepted by university programs across Canada. For example, it may be helpful to know the range in the number of pages in accepted theses or the range in statistical analyses or methods being used. This information may influence policy relating to thesis requirements and the type of coursework, required or elective, offered in a Master's program.

Additionally, this research may provide data for future researchers who wish to compare the results obtained for the 2008 - 2010 time period with other
time periods or who wish to compare the results obtained within Second Language Teaching and Learning with other disciplines or topical areas.

To this end, the data obtained for this study shall be made available through the Carleton University Library's Data Centre to facilitate future research in this area.

1.4 Thesis Overview

This thesis presents a survey of Master's student research in the field of Applied Linguistics focused particularly on Second Language Teaching and Learning. Overall, the study uses Quantitative Mixed methods research (Burke Johnson, Onwuegbuzie & Turner, 2007). Further detail on this research paradigm is provided in Chapter 2. Data was collected using content analysis (McNeil, 2005) with Master's theses used as primary sources. Further detail on this research method is provided in Chapter 3.

This chapter, Chapter 1, has introduced the rationale for the research, stated the research questions, and suggested the benefits that may be gained from this thesis research. Chapter 2 presents the terminology used in this thesis and reviews the literature, placing the study within the context of previous research that has investigated methodologies used in Applied Linguistics and Second Language Teaching and Learning research. Chapter 3 discusses the methodology used in the study, describing how the collection of theses was chosen, and how the data were collected and analyzed. Chapter 4 presents the
results of the analyses and provides discussion. Conclusions are presented in
Chapter 5 along with a statement of the study's limitations and topics that may be
considered for future research.
Chapter 2 - Literature Review

A number of researchers have been tracking the trends in the field of Applied Linguistics (AL) across nearly 40 years of research. Section 2.1 reviews that literature and identifies a gap that this thesis begins to address. That is, the research to date has focused almost exclusively on articles published in academic journals whereas this thesis attempts to add to that discussion by contributing data on Master's level research.

Section 2.2 explores the relationship between AL and Second Language Teaching and Learning (SLTL) in reference resources such as encyclopedias and dictionaries, previous scholarly literature and departmental websites.

Section 2.3 describes Research Paradigms, Research Methods and Statistical Analyses based on how others have defined these concepts and how they are used as terms in this thesis.

Finally, section 2.4 reiterates the research questions.

2.1 Research Methodology Trends in the Literature

Several studies conducted in the past twenty-five years have explored trends in Applied Linguistics (AL) research, mostly specific to Second Language Teaching and Learning (SLTL). (See for example, Benson, Chik, Gao, Huang & Wang, 2009; Gao, Li & Lu, 2001; Henning, 1986; Lazaraton, 2000; 2002; 2005; Martynchev, 2009; Thomas, 1994; Wenfeng & Gao, 2008).

Collectively, these studies have investigated the research trends in AL and SLTL, spanning nearly 40 years, from 1970 to 2008.
Figure 1 illustrates the coverage of these articles.

![Figure 1 Coverage of Research across 40 Years](chart.png)

The documents analyzed by these researchers were journal articles published in academic journals, either in North America or in China. The number of works examined by these researchers varied from as few as 16 documents (Lazaraton, 2002) to as many as 2487 documents (Gao et al., 2001).

These nine research teams analyzed articles from a total of 36 journals. TESOL Quarterly and Language Learning were the most popular journals for analysis by the researchers considered here. Other popular journals were Modern Language Journal, Applied Linguistics, and Studies in Second Language Acquisition.

Taken together, these studies provide insight into the trends within AL, especially SLTL research, in terms of the prevalence of specific Research Paradigms (Benson et al., 2009; Gao et al., 2001; Henning, 1986; Lazaraton, 2000; 2005; Martynchev, 2009), Research Methods (Benson et al., 2009;
The three terms, Research Paradigms, Research Methods and Statistical Analyses as they are used in this thesis, are defined later in this chapter, in section 2.3. Below, each term is described within the context of the previous literature on AL and SLTL research trends.

2.1.1 Research Paradigms

Several studies, outlined below, provide insight into the Research Paradigms that have been adopted by researchers over the years.

Henning (1986), who covered the period of publication from 1970 to 1985, reported on the trends in the use of quantitative and "nonquantitative" methods by analyzing particular research studies published in two journals, TESOL Quarterly and Language Learning (p.701). He found an increase in the use of quantitative research over time, in both journals. He found an increase in the percentage of quantitative research from 12% (n=4) in 1970 to 61% (n=17) in 1985 in TESOL Quarterly and an even more dramatic increase from 24% (n=4) to 92% (n=22) over the same time period in Language Learning. In fact, in 1985, "the two nonquantitative articles appearing in 1985 were rebuttals to critiques of quantitative research. If they [we]re excluded, the percentage of quantitative research becomes 100%" (Henning, 1986, p.704).
Gao et al. (2001) covered the research published in Chinese journals from 1978 to 1997 and the research published in Western journals from 1985 to 1997. Of particular interest were the English language journals. Forty-three percent were non-empirical, 39% were quantitative and 18% were qualitative during the 1985 to 1997 period. Numbers of articles per category were not supplied by the authors and thus, are not included here. The trends showed an overall preference for non-empirical articles, followed by quantitative research articles, with qualitative articles the least preferred.

Lazaraton (2000) analyzed 332 articles published in four AL journals over a 7-year period, from 1991 to 1997. According to Lazaraton, 88% (n=292) were found to be quantitative, 10% (n=33) were qualitative and 2% (n=7) were partially qualitative (p.178). Quantitative research was strongly preferred at this time. Here, the qualitative paradigm appeared to be increasing in use and the phrase 'partially qualitative' appeared. Lazaraton (2000) described 'partially qualitative' research as cases where “the data were analyzed quantitatively, but the majority of the article consisted of quotes from learners, transcripts, and the like” (p.177).

In 2005, Lazaraton extended her previous study to include coverage of an 11 year period (1991 - 2001), covering four AL journals, which may, at a more specific level, be considered SLTL journals (Language Learning, Modern Language Journal, Studies in Second Language Acquisition and TESOL Quarterly). In this study, 86% (n=450) of the published articles were quantitative, 13% (n=67) were qualitative and 1% (n=7) were “a mixture of both” (p.214). A
slight balancing of quantitative versus qualitative could be seen with this extended coverage.

Benson et al. (2009) found that 22% (n=477) of journal articles published in ten major journals between 1997 and 2006 were qualitative, and the year by year totals were relatively stable. They did not report on the number or percentage of articles that were quantitative, however.

Martynchev (2009) published a PhD dissertation exploring research studies published in nine peer-reviewed AL journals across a seven-year period, 2002 – 2008. Of 636 research articles, 64% (n=406) used quantitative research design, 28% (n=177) used qualitative research design and 8% (n=53) used mixed research design. Her research found an increase in qualitative and mixed methods and a decrease in quantitative studies within three of the same journals included in Lazaraton's (2005) study, namely, TESOL Quarterly, Language Learning and The Modern Language Journal.

These studies have shown an overall decrease in the dominance of quantitative research articles in scholarly journals, over time. From nearly 100% (n=20) quantitative in Henning’s (1986) findings, to 86% (n=450) quantitative in Lazaraton's (2005) study to 64% (n=406) quantitative in Martynchev’s (2009) most recent research, the trend away from quantitative research overriding all others seems clear. However, these studies have focused almost entirely on the research published in academic journals. This thesis investigated the recent state of preference for methodological approach in Master's theses.
2.1.2 Research Methods

Lazaraton (2000) analyzed the Research Methods used in the qualitative studies included in her sample. Of the 33 articles, "ethnography was the most frequently employed procedure, used 45% (n=15) followed by analyses of oral and written discourse, used 33% (n=11) and several others used 2 or fewer times" (p. 179). Quantitative articles were not analyzed in terms of their research methods. Instead, they were analyzed for the types of statistical procedures used.

Lazaraton (2002) focused on research using discourse analysis as a methodological procedure. She found it "impossible to locate a published applied linguistics study which claims to be both discourse analytic and quantitative in nature" (p. 34).

Benson et al. (2009) surveyed 477 qualitative articles and found "methodological eclecticism, rather than adherence to established traditions" (p.79). This research team found case study to be used 47% (n=225), discourse analysis 11% (n=53), classroom interaction 10% (n=49), ethnography 10% (n=49), conversation analysis 4% (n=20), longitudinal 4% (n=19), think-aloud 3% (n=16), narrative 3% (n=12), stimulated recall 1% (n=7), self-study 1% (n=6), corpus study 1% (n=6), genre analysis <1% (n=4), action research <1% (n=4), phenomenology <1% (n=2), systemic functional analysis <1% (n=1).
The authors noted that some of the articles did not explicitly state the methodologies used but the authors of the Benson et al. (2009) study made judgments on the articles in order to classify them.

Martynchev (2009) analyzed qualitative and mixed research articles for the methodological procedures used. “Case studies (in 25% of the articles) and interviews (in 21%) were the most frequently used research methodologies” (p.ii).

Her data further showed audio recording 13% (n=23), conversation analysis 8% (n=14), questionnaire/survey 7% (n=12), ethnography 6% (n=11), video recording 3% (n=6), exploratory study 2% (n=4), observation 2% (n=4) and experiment 2% (n=3) to be popular methodological procedures. Others mentioned include: action research, diary-type data analysis, microgenetic analysis, reflective journal, written text analysis, concept maps, content analysis approach, critical discourse analysis, dialogue journal analysis, metaphor analysis methodology, narrative inquiry, needs analysis, responsive evaluation study and transcribed discourse (p.82-83).

2.1.3 Statistical Analyses

Henning (1986) looked at articles published in two journals. He found a distinct trend toward greater use of inferential as opposed to “mere descriptive statistics” (p.703).

Lazaraton 2000 and 2005 reported similar results, the main difference between her two studies being that the first one covered a seven year period
while the second one covered an eleven year period. In both cases, Lazaraton tallied the number of times each statistical procedure was used in quantitative research articles published in four journals.

"The most common procedures were those labeled as descriptive, where frequencies, means, and standard deviations were presented" (p.178). 84% (n=377) of the articles used descriptive statistics.

"ANOVA accounted for over 40% of the statistical analyses" in the articles examined. (p.178). In fact, 44% (n=199) used ANOVA, Pearson correlation was used in 28% (n=126), t-test 23% (n=102), regression analysis 13% (n=58), chi-square 11% (n=48), MANOVA 7% (n=31), ANCOVA 7% (n=25), and factor analysis 6% (n=27).

Martynchev (2009) looked at the statistical procedures used in quantitative studies published in nine journals from 2002 to 2008. The top three procedures used overall were ANOVA (42%), "t-test [was] used in 32% and Pearson product-moment correlation coefficient in 28%" (p. 78).

Chi-square (15%, n=61), Cronbach’s test of reliability (14%, n=56), Regression analysis (14%, n=55) were part of a list of 59 statistical procedures provided, many of them used in just a handful of the articles analyzed (p.79-81).

These researchers have, collectively, covered the trends in AL researchers’ use of Research Paradigms, Research Methods and Statistical Procedures. However, they have focused on the work published in academic journals. The focus of this thesis is to look at a different set of research work: Master's theses.
2.2 Applied Linguistics and Second Language Teaching and Learning

Some of the nine research teams included in the literature review of the previous section (Henning, 1986; Lazaraton 2000; 2002; 2005; Gao et al., 2001) used the term Applied Linguistics (AL) to describe their topic of focus whereas a more specific term according to the definitions used in this thesis would be Second Language Teaching and Learning (SLTL). In this section, I explain how AL is defined by some members of the AL community and how SLTL fits within that definition.

I looked to reference resources (encyclopedias and dictionaries), the scholarly community (journal articles and books) and other AL stakeholders via departmental websites.

2.2.1 Reference Resources

I consulted several dictionaries, glossaries, encyclopedias and other reference resources to determine how AL has been defined over time and found that the earliest reference resource available to me on the topic of Linguistics or Applied Linguistics was published in 1954. Pei and Gaynor (1954) defined Linguistics as, simply, "the science of language" (p.124). No definition for the term Applied Linguistics was provided in that publication.

Twelve years later, in 1966, Pei provided a much more complicated definition for Linguistics and the introduction of the term Applied Linguistics was
given which was “the use of language teachers of the findings of linguists (...)” (p.150).

In 1974, Okreglak and Taylor indicated that the prevailing concept of AL was primarily related to language teaching and learning in their describing the purpose of their book which was “to survey and classify journal literature in the field of applied linguistics published outside the United States. Such a survey constitutes an important step toward bridging the gap in the availability of language teaching data from abroad” (p.vii).

These earlier definitions point to AL equating to language teaching at least for the people defining the terms. However, in 1992, AL received a much broader definition by David Crystal. He stated that AL is “the use of linguistic theories, methods, and findings in elucidating and solving problems to do with language which have arisen in other areas of experience” (p.124). He also pointed out that “the domain of applied linguistics is extremely wide, and includes foreign language learning and teaching, language disorders, translation and interpreting, lexicography, style, forensic speech analysis, and the teaching of reading” (p.124).

In 1996, Bussmann defined AL as “a term covering several sub disciplines as well as certain interdisciplinary areas that use linguistics methods: language pedagogy, psycholinguistics, language acquisition, second language acquisition, translation, contrastive analysis, language planning, lexicography, computational linguistics, ethnolinguistics, sociolinguistics, and others” (p.30). He also
contrasted AL to theoretical linguistics, declaring that “the latter is concerned with
the formal structure of language as an autonomous system of signs” (p.30).

Bussmann (1996) also provided examples of topics covered by AL.
“These include problems of foreign-language instruction, translation, machine-
aided translation and language planning” (p.284).

Perhaps the broadest definition was provided by Matthews (1997) as
“strictly any application of linguistics” (p.22). Even still, he noted that it especially
referred to the teaching of English as a foreign or second language.

In 1997, Crystal situated AL amongst other “interdisciplinary fields”
(p.148). These were, alphabetically, anthropological linguistics, applied
linguistics, biological linguistics, clinical linguistics, computations linguistics,
educational linguistics, ethnolinguistics, geographical linguistics, mathematical
linguistics, neurolinguistics, philosophical linguistics, psycholinguistics,
sociolinguistics, statistical linguistics, and theolinguistics.

Crystal (1997) also provided a glossary with an entry for AL being “the
application of the theories, methods, or findings of linguistics to the solution of
practical problems” (p. 421). From this definition provided in 1997 to the
definitions provided in more recent times, little has changed in the overarching
sentiment expressed.

For example, Trask’s (1997) definition was “the application of the ideas
and methods of linguistics to any of a number of practical problems which have
something to do with language” (p.18). Two years later, Trask (1999) redefined
the term only slightly but perhaps more concisely as “the application of the
concepts and methods of linguistics to any of various practical problems involving
language” (p.18).

In 2001, Crystal refined his definition, again only slightly, to “the use of
linguistic theories, methods, and findings in elucidating and solving problems to
do with language which have arisen in other areas of experience.” The definitions
provided by Crystal in 2003 and 2008 did not offer much change aside from a
minor variation in wording.

This analysis suggests that the definition of AL was originally very specific,
equating to studies in language teaching and learning. However, over time, it has
been increasingly broadened to include any application of linguistic study to the
solving of practical problems in the world.

Despite the evolution to the broad definition, the narrower connotation
seemed to prevail. References to AL continue to state it as mostly “applied to the
analysis of second-language teaching” (Trask, 1997, p.18), being “most often
encountered in connection with foreign-language teaching” (Trask, 1999, p.18-19).

Crystal (2003) noted that “this term is often restricted to the study of the
theory and methodology of foreign-language teaching” (p. 285) and in 2008 he
stated that “the most well-developed branch of applied linguistics is the teaching
and learning of foreign languages, and sometimes the term is used as if this were
the only field involved” (p.31).
In addition to referring to primarily language learning and teaching topics, other areas of inquiry are listed. These include: dictionary writing (Trask 1997, p.18), translation (Trask, 1997, p.18; Trask, 1999, p.18-19; Crystal, 2008, p.31), translation and interpreting (Crystal, 2001, p.21), language disorders (Trask, 1997, p.18; Trask, 1999, p.18-19; Crystal, 2001, p.21) or Clinical Linguistics (Crystal, 2008, p.31), lexicography (Trask, 1999, p. 18-19; Crystal, 2001, p.21; Crystal, 2008, p.31), teaching of reading (Trask, 1999, p.18-19; Crystal, 2001, p.21), style (Crystal, 2001, p.21) or stylistics (Crystal, 2008, p.31), forensic speech analysis (Crystal, 2001, p.21, mother-tongue teaching (Trask, 1997, p.18; Trask, 1999, p.18-19); and mother-tongue language education or Educational Linguistics (Crystal, 2008, p.31).

Despite the recognition of AL comprising of broad and varied fields of study, the narrower view of AL equating to Second Language Teaching and Learning seems to prevail within the linguistics community according to the reference resources I consulted.

2.2.2 Scholarly Community

This section explores AL as discussed by the scholarly community in the literature.

Catford (1998) pointed out that AL can be traced back to ancient times. For example, “the inventors of ancient writing systems must have given thought to linguistics matters and carried out some degree of linguistic analysis.
Babylonian grammarians drew up extensive, systematic lists of Sumerian verbal, pronominal and some other forms, and presented them side by side with corresponding Akkadian forms” (p.466).

In more recent times, Linn (2008) stated that “…there was a distinctive and independent movement in linguistics in the decades around the turn of the 20th century, referred to as the Anglo-Scandinavian School, and that it was here that modern applied linguistics was established” (p. 342).

According to Linn (2008) “[i]n 1888 the first journal dedicated to the new science of phonetics began to appear. This was Phonetische Studien, and it bore the subtitle… [Journal of scientific and practical phonetics with particular respect to the teaching of pronunciation]. Notable here is the fact that the journal is intended to bridge the gap between ‘scientific’ and ‘practical’ – its aims are applied – and that it is particularly concerned with what has subsequently become the principal subfield of applied linguistics, namely language teaching” (Linn, 2008, p.365).

Though Henry Sweet (c1899) had been called ‘the father of Applied Linguistics” (Catford, 1998, p. 467), Malmberg (cited in Catford, 1998, p. 467) suggested Otto Jesperson as “the first great applied linguist”.

“Jespersen was the most prominent scholar in the group of linguists and phoneticians who met in Stockholm in 1886 to outline a modern program for the teaching of foreign languages” (Catford, 1998, p.467).
It seems, then, that AL originated as a means to improving a practical issue at the time. The goal of the original applied linguists was to use linguistics as a means for improving the teaching of foreign languages. However, 135 years later, the definition of AL is evolving and continues to be debated.

"... [A]pplied linguistics has always been, and continues to be, an elusive kind of enquiry, and applied linguists have agonized about their identity for as long as I can remember" (Widdowson, 2001, p.3).

Widdowson (2001) goes on to state:

The only requirement, it seems, is that they should be doing something which bears on language problems in what we call 'the real world'. And the assumption seems to be that the closer you get to reality the more applicable your linguistics becomes (p.3).

According to Cook (2005), the journal Applied Linguistics solicits contributions from a variety of areas, first and second language learning and teaching being at the top of the list followed by other areas, alphabetically; critical linguistics, discourse analysis, language in education, language planning, language testing, lexicography, multilingualism and multilingual education, stylistics and rhetoric, translation.

Bialystok (1998) compared the coming of age in AL to the coming of age of a human being passing through the stages of childhood, adolescence and adulthood.
"Much of the incentive for early studies in applied linguistics was created by a practical problem: How can educators improve foreign language teaching? Many of the early contributors to the field were language teachers who had encountered problems that needed to be solved." (Bialystok, 1998, p. 498)

As the field moved into adolescence, "there was a proliferation of theories that did not simply import the models and methods from other fields but rather designed solutions to specific problems. New methodologies, sensitive to the special circumstances of research in applied linguistics, developed for both basic and applied settings" (Bialystok, 1998, p.499).

Applied linguistics has reached the stage of adulthood. As an adult member of the scientific community, it must take its place on a wider stage to develop meaningful connections to other disciplines and forge areas of co-operation with them. Applied linguists must become partners in an effort to solve the larger problems, those that may exceed the narrow boundaries of the discipline but indisputably involve it. Applied linguistics has much to gain from such a partnership. It must adapt methodologies created for different problems and integrate the theories and concepts developed in independent areas to achieve a more profound and broadly based understanding of language (Bialystok, 1998, p.500).

Weideman (2003) discussed his thoughts on a sixth generation of applied linguistics – post modern applied linguistics. He briefly summarized the six models/traditions of:
Post modern AL is unique in that it “deals with accountability” (Weideman, 2003, p.83). Much of the article is related to the context of his own work, language teaching and learning. However, with the sixth generation, language and power are introduced in the context of language teaching and learning.

Cook (2005) pointed out that:

[N]either Widdowson’s redefinition nor the growing scope of applied linguistics were accepted immediately or universally. Some have simply ignored the changes, continuing to work as though the mission of applied linguistics were still the one-way trans-mission of ideas from linguistics to language teachers and learners. (p. 286)

In section 2.1 of this thesis, the work of nine research teams investigating the trends in research methodologies was compared and contrasted. Looking at their use of the terms AL and SLTL and other related terms provides insight into how these terms have evolved over time.

For example, Henning (1986) seemed to use the terms AL and ‘language acquisition’ interchangeably. The articles he analyzed came from journals specializing in language acquisition or SLTL but he sometimes referred to the research coming from the journals as being applied linguistics research. Whether
he was equating the two terms or whether he considered them as categories within a hierarchy is unknown to me.

In 1994, Thomas identified her topic in the title of her article as 'second language acquisition research' and did not use the term AL at all.

Lazaraton (2000; 2002; 2005) used the same journals that Thomas (1994) used, which were clearly focused on SLTL but used the term AL to describe the area of research.

Gao et al. (2001) used the term AL the research articles included in their analysis were a mix of both SLTL and a few broader AL topics. Likewise for Wenfeng and Gao (2008) who analyzed articles mainly having to do with English language education (in China) but also those relating to broader AL topics such as language policy and planning.

Most recently, Benson et al. (2009) used the term Language Teaching and Learning to describe the focus of articles included in their analysis.

Martynchev (2009) used the term AL, and emphasized that her use of that term included second language teaching and learning in addition to other topics. She noted that Lazaraton's use of the term AL differed from her own in that only second language teaching and learning topics were included in Lazaraton's work. In emphasizing this distinction, Martynchev (2009) said that:

Lazaraton's study often seemed to equate applied linguistics with second language learning and teaching, which is most inaccurate. Indeed, at one
point in the article in question, Lazaraton herself admits that two of the four journals she used were 'more “niche” journals... that are not representative of applied linguistics in the broad sense (p.218)' (as cited in Martynchev, 2009, p.37).

Overall, Lazaraton was the only researcher in my review to use the broader term, AL, when SLTL or another similar term might have been more accurate in its level of specificity. However, it is easy to understand how the two terms could be used interchangeably as in Henning (1986) and Gao et al. (2001) because SLTL, as considered in this thesis, is a subcategory of AL, and has dominated the other subcategories of AL.

2.2.3 Departmental Websites

I wondered how academic departments that offered degrees in Applied Linguistics (AL) defined the field based on the scope of their programs. Using a database of universities belonging to the Association of Universities and Colleges of Canada (AUCC), I found five universities offering Master's degrees in AL. Concordia University and the University of Victoria both offered M.A.s in Applied Linguistics. Brock University offered an M.A. in Applied Linguistics (TESL). Carleton University offered an M.A. in Applied Linguistics and Discourse Studies. Trinity Western University offered an M.A. in Applied Linguistics and Exegesis. Some of these universities and many others offered other degrees in Linguistics.
or Teaching English as a Second/Other Language but I did not include them in this brief analysis.

The descriptions provided on each of the five departmental websites showed that language teaching and learning continued, mostly, to be equated with AL. Concordia University, University of Victoria and Brock University have language teaching and/or learning as their primary, or even sole, research area as indicated by the following texts:

- "primarily for students ... who wish to pursue graduate study in areas related to second language teaching and learning" (Concordia University, n.d.).

- "provides graduate training in theories and research in the areas of second language acquisition (SLA) and the practice of second language teaching methodology" (University of Victoria, n.d.).

- "Graduates of this program will be extremely well prepared to take up posts as TESL professionals in Canada or abroad" (Brock University, n.d.).

At Trinity Western University, the website stated that, in addition to being "beneficial to those who expect to study another language and culture and produce Christian literature in that language" students at Trinity Western University were also prepared for translation (of the Bible), or literacy (Trinity Western University, n.d.).

Carleton University's website demonstrated the most breadth in its program. In addition to several subtopics that I categorized as Second Language
Teaching and Learning (SLTL) topics, the following areas were also included extensively enough to be mentioned on their departmental website: language and/in media, writing in the workplace, academic writing, genre studies, critical discourse analysis, language policy and planning, sociology of language, systemic functional linguistics (Carleton University, n.d.).

From this small survey, I learned that despite the broader definition of AL that has been emerging from the linguistic community, the majority of Canadian universities offering AL degrees continue to focus primarily on SLTL.

Based on the definitions and uses of the term AL I found in a variety of contexts across a period of time (1954 - 2008), I decided that the most inclusive definition of AL is the application of linguistics. This definition is very broad and is meant to include all areas more recently considered to be AL, including language testing, language planning and policy and the many other fields emerging as part of this broader field as found, for example, in the program at Carleton University. This is a very expansive definition that is appropriately inclusive of the breadth of research being done in this field.

AL is a field too broad for me to adequately analyze in this thesis. Thus, I chose to analyze only a component of the field, specifically, the research relating to SLTL. Thus, like many others before me, I am focusing on a narrower view of AL. However, unlike Lazaraton (2000; 2002; 2005), I am identifying this research not as AL, but as SLTL.
Aside from Carleton University’s program, I found that the university departments continue to define AL in terms of SLTL. This may include aspects of what might fall under the broader AL (i.e. language testing and writing studies) but may exclude others (i.e. critical discourse analysis, language policy and planning). Having to narrow my scope from AL to SLTL is a limitation in this study. On the other hand, it allowed me to focus on one particular area of this diverse field, and one that happens to have been investigated in the past, in a similar way to how I investigated it here. This is an advantage because it better allowed me to compare my results to theirs.

Within the AL community overall, a definition of AL does not seem to have yet been fully established or agreed upon. To date, many AL stakeholders have participated in discussions relating to the definition of AL and many more discussion are sure to continue into the future.

Marytnchev (2009) provided an in-depth investigation of AL: its definition, geographical spread and future. Others who have offered important contributions include Widdowson, 2000 who provided a distinction between applied linguistics and linguistics applied and Seidlhofer (2003), also provided a thorough examination of several issues within the discussion of what is meant by the term Applied Linguistics.
2.3 Research Paradigms, Research Methods and Statistical Analyses

In section 2.1 of this chapter, I presented the trends in research methodologies based on reports by researchers investigating a) Research Paradigms, b) Research Methods and c) Statistical Analyses. In this section, I define these three terms and provide information about the categories that fit within them.

These three major terms are based on three top-level concepts introduced by Creswell (2009) and, differently, by Green and Caracelli (1997).

Creswell (2009) discussed research designs as including “three important elements: philosophical assumptions, strategies of inquiry, and specific research methods.” (Creswell, p.xxii).

Meanwhile, Greene and Caracelli (1997) defined “Three Levels of Inquiry”:

1. The political level, or the level of purpose, which encompasses the broad, value-based questions about the purpose and role of evaluation in society.

2. The philosophical level, or the level of paradigm, which incorporates assumptions and stances about the social world and our ability to know it

3. The technical level, or the level of method, which represents discrete methods and procedures for gathering and analyzing information” (p.5-6).
Creswell's (2009) first element, 'philosophical assumptions' and Greene and Caracelli's (1997) first level, 'level of purpose' are not within the scope of this thesis and, hence, not discussed further.

However, Creswell's (2009) second element, 'strategy of inquiry' and Greene and Caracelli's (1997) second level 'level of paradigm' correspond to this thesis' use of the term Research Paradigm. Thus, Research Paradigm matches Greene and Caracelli's (1997) definition for 'level of paradigm' specifically it is that “which incorporates assumptions and stances about the social world and our ability to know it” (p.5). The categories I assigned under Research Paradigm are Quantitative, Quantitative Mixed, Mixed, Qualitative Mixed and Qualitative. These are further defined in section 2.3.1.

Creswell's (2009) third element 'specific research methods' and Greene and Caracelli's (1997) third 'level of inquiry' correspond to this thesis' use of the term Research Method.

As defined by Greene and Caracelli (1997), this concept "represents discrete methods and procedures for gathering and analyzing information" (p.5-6). More details on the categories falling under this term are provided in section 2.3.2.

The concepts represented by the terms Research Paradigm and Research Methods can be described using many different terms. Confusingly, the concepts may even be described using the same term, as Smart (2008) pointed out. The terms method and methodology are sometimes used interchangeably. Smart (2008) makes a distinction between the use of the term
method and the term methodology, however. While a method is a set of procedures for collecting and analyzing research data, “a methodology is broader: a methodology is a method plus an underlying set of ideas about the nature of reality and knowledge.”

For the purposes of this thesis, this clarification between the two terms is crucial. I have used the term Research Paradigm to describe what Smart (2008) terms methodology. I use the term Research Method to describe what Creswell (2009), Greene and Caracelli (1997) and Smart (2008) all identify as method.

A third term included in this thesis, Statistical Analyses, is rather self-explanatory. More details on this term and its categories are provided in section 2.3.3.

2.3.1 Research Paradigm

The categories under Research Paradigm include Quantitative, Quantitative Mixed, Mixed, Qualitative Mixed and Qualitative. I arrived at these categories and their definitions via a merging of ideas from Creswell (2009), Tashakkori and Teddlie (1998) and Burke Johnson et al. (2007).

Creswell (2009) provided definitions for Quantitative and Qualitative research methods.

For quantitative research, he stated that it “is a means for testing objective theories” (Creswell, 2009, p.233). Additionally, “the final written report has a set structure consisting of introduction, literature and theory, methods, results, and discussion” (Creswell, 2009, p.233).
Examples of quantitative research considered by Creswell (2009) are surveys and experiments.

On the other side of the spectrum "[q]ualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures; collecting data in the participants' setting; analyzing the data inductively, building from particulars to general themes; and making interpretations of the meaning of the data. The final written report has a flexible writing structure" (Creswell, 2009, p.232).

For qualitative research, Creswell (2009) considers "phenomenology, ethnography, grounded theory, case studies, and narrative research in qualitative research" as commonly used research methods (p.xx).

Tashakkori and Teddlie (1998) call quantitative and qualitative methods "monomethods" (p.14).

"Monomethod studies are studies conducted by 'purists' working exclusively within one of the predominant paradigms" (p.17).

Tashakkori and Teddlie (1998) provide an in-depth analysis of a paradigm representing the convergence of these two monomethods. They introduce both mixed methods and mixed models as further distinction within this new third paradigm.

Mixed methods combine qualitative and quantitative approaches in the methodology of a study (such as in the data collection stage), while mixed model studies combine these two approaches across all phases of the
research process (such as conceptualization, data collection, data analysis and inference) (p.ix–x).

A distinction between mixed methods and mixed models is not made in this thesis. These two concepts are grouped together under one term, Mixed.

Incidentally, mixed methods research is also acknowledged by Creswell (2009) when he states that “[a] study tends to be more qualitative than quantitative or vice versa. Mixed methods research resides in the middle of this continuum because it incorporates elements of both qualitative and quantitative approaches” (p.3).

However, Creswell (2009) cites Newman and Benz (1998) who wrote that: “Qualitative and quantitative approaches should not be viewed as polar opposites or dichotomies; instead, they represent different ends on a continuum”.

For the purposes of this thesis, the three categories, Quantitative, Mixed and Qualitative were not sufficient to represent the several points along the continuum where a research study might reside. Thus, I turned to the categories offered by Burke Johnson et al. (2007) which are nicely illustrated in Figure 2.

In addition to categories conceptually similar to my Quantitative, Mixed and Qualitative, Burke Johnson et al. (2007) include two further categories Qualitative Mixed and Quantitative Mixed which I adopt as terms used in this thesis.
According to Burke Johnson et al. (2007):

Qualitative dominant mixed methods research is the type of mixed research in which one relies on a qualitative, constructivist-poststructuralist-critical view of the research process, while concurrently recognizing that the addition of quantitative data and approaches are likely to benefit most research projects (p. 124).

On the other hand:

Quantitative dominant mixed methods research is the type of mixed research in which one relies on a quantitative, postpositivist view of the research process, while concurrently recognizing that the addition of
qualitative data and approaches are likely to benefit most research projects (Burke Johnson et al., 2007, p.124).

This section has defined the five categories of Research Paradigms as they are used in this thesis. The next section defines Research Methods and discusses the difficulty of defining categories under that term.

2.3.2 Research Methods

Greene and Caracelli (1997) had defined the concept of Research Method as “discrete methods and procedures for gathering and analyzing information” (p.5-6). Smart (2008) had described it as a set of procedures for collecting and analyzing research data.

“Examples of methods include questionnaires, interviews, observations, and archival records, each of which can gather information that is quantifiable or that remains qualitative or symbolic (Bednarz, 1985; Reichardt and Cook, 1979)” (as cited in Greene and Caracelli, 1997, p.7).

For example, Greene and Caracelli (1997) further point out that “[a] survey is usually thought to represent a quantitative methodology. Yet, surveys generally begin with some qualitative base to ensure context-relevant interpretation of questions and may include open-ended responses, resulting in an instrument with mixed-method characteristics” (p.20).

“Similarly, case studies frequently associated with qualitative methodology can include a combination of methods and can be carried out within a critical
realist framework (Yin, 1989) or an interpretivist one (Stake, 1994)” (as cited in Greene and Caracelli, 1997, p.20).

That research methods such as surveys or case studies are not ‘intrinsically linked to any particular paradigm’ (Bednarz, 1985; Reichardt and Cook, 1979)” (as cited in Greene, 1997, p.7) is one part of what made it difficult to categorize specific research methods.

Additionally, the point that case studies can include a combination of other methods also makes categorization difficult. There are research methods that belong higher in the hierarchical representation than others. Because I was unable to find an adequate representation of research method categorization in the literature, I choose to follow what others had done before me, treating the research method types in a non-hierarchical way.

The next section defines Statistical Analyses and its categories.

2.3.3 Statistical Analyses

“Statistics is a field of study with two basic objectives: (1) to describe (or summarize) data and (2) to provide a valid method for making generalizations or inferences from a sample about an entire population” (Brockett and Levine, 1984, p.3).

The term ‘Statistical Analyses’ as used in this thesis simply refers to the analyses, descriptive and inferential, used to satisfy those two objectives. Thus, the categories under the term ‘Statistical Analyses’ are ‘Descriptive Statistics’ and ‘Inferential Statistics’.
According to Brockett and Levine (1984) “[t]he purpose of descriptive statistics is to represent the features of a mass of data, portraying these features graphically or through summary numerical measures, or both” (p. 4). On the other hand, inferential statistics are those that infer. That is, they deduce or draw conclusions. Inferential statistics “take the information that is gathered in a sample and utilizes it to make statements concerning the population from which the sample was selected” (Brockett and Levine, 1984, p.7).

Within Inferential Statistics, a distinction is made between parametric and nonparametric statistics. Parametric tests are used when the population has a normal distribution (Adeyemi, 2009) whereas nonparametric tests are “distribution-free tests used when the nature of the population distribution from which samples are drawn is assumed not to be normal (Champion, 1970)” (as cited in Adeyemi, 2009).

Examples of descriptive statistics include averages and percentages (Brockett and Levine, 1984), whereas, examples of inferential statistics of the parametric type include t-tests, ANOVA, Pearson r product Moment correlation coefficient (Adeyemi 2002) (as cited in Adeyemi, 2009). Finally, examples of inferential, nonparametric test include chi-square test, Kolmogorov-Smirnov test, Mann-Whitney U test, Sign test, Wilcoxon matched-Pairs Signal-ranks test, Lambda symmetrical/asymmetrical test (Berenison and Levine, 1979) (as cited by Adeyemi, 2009), Spearman’s rank correlation coefficient, non-parametric ANOVA (Brockett and Levine, 1984) and Kruskal-Wallis test (McLelland, 2000).
With these key terms having been defined, the research questions are presented again.

2.4 Research Questions

The primary and secondary research questions are provided here again for the reader's review.

Primary Research Questions

RQ1. Which research paradigms were most used in recent Second Language Teaching and Learning Master's level research?

RQ2. What research methods were most used in recent Second Language Teaching and Learning Master's level research?

RQ3. What statistical analyses were most used in recent Second Language Teaching and Learning Master's level research?

Secondary Research Questions

RQ4. How many/what percentage of theses used the words qualitative, quantitative, mixed and triangulation?

RQ5. How many/what percentage of theses gathered their data via human participants? Of these, what percentage mentioned ethical considerations in their report?
RQ6. How many/what languages were considered as Base and Target languages in these theses? What languages were represented the most?

RQ7. What was the average number of pages of these theses?

RQ8. What was the average number of references cited in these theses?

This chapter reviewed the trends in research methodologies. It addressed the definition of Applied Linguistics (AL) and Second Language Teaching and Learning (SLTL) as well as the terms Research Paradigms, Research Methods and Statistical Analyses. The research questions that delineate the scope of this thesis were also provided. In the next chapter, the methodology and method chosen to investigate these research questions is discussed.
Chapter 3 - Methodology

This chapter consists of three main sections. Section 3.1 discusses the process used to select the theses to be included in the analysis. Section 3.2 describes the resulting list of theses. Section 3.3 describes how the data were collected from each thesis and Section 3.4 explains how the data were analyzed.

3.1. Selection of Theses

The initial objective was to obtain a list of Master’s theses contributing to the field of Applied Linguistics (AL) in Canada. However, as discussed in Chapter 2, Literature Review, I decided, instead, to focus on one component of AL: Second Language Teaching and Learning (SLTL).

In this section, I describe three strategies that I considered for identifying a collection of theses which would allow me to address the research questions.

3.1.1. Strategy 1: Applied Linguistics Degree Programs

Initially, I had hoped to identify all AL Master’s theses by obtaining a list of them published by each program offering an M.A. in AL.

This strategy had to be abandoned, however, for two reasons. First, I came to realize that many AL theses were produced for non-AL programs. There were cases of Master’s students completing thesis work on AL topics such as Discourse Analysis or Clinical Linguistics, but the programs these theses were produced
from varied. For example, such AL theses may have been produced from within a Linguistics program or a Speech Pathology program.

Additionally, the University of Victoria’s M.A. in Language and Literacy or McGill University’s M.A. in Second Language Education are further examples that show how this strategy would have missed numerous theses that I would have liked to have included for analysis. Despite that their programs would have undoubtedly produced theses on the topic of AL they would have been excluded from my search because they did not make use of that term in their program title.

The second reason Strategy 1 did not work, was that most of the AL programs in Canada were focused almost exclusively on one narrower aspect of AL: SLTL. For example, Brock University offered an M.A. Applied Linguistics but its focus was entirely on preparing students for Teaching English as a Second Language (TESL).

By following this strategy, I would have obtained a list of theses greatly skewed towards SLTL topics when what I had been aiming to obtain was a list of AL theses.

What I had thought would be a straightforward means to obtaining a list of AL Master’s theses was, in fact, much more complicated than I had realized. I rejected this strategy, opting to try a different approach, detailed in the next section.
3.1.2. Strategy 2: Database Search of “Linguistics”

Overview

The next approach was to conduct a much broader search of theses having the term “Applied Linguistics” in its document text. This search, using ProQuest Dissertations and Theses (PQDT) database would cover all Canadian departments and program, thus avoiding the limitations inherent in the first strategy I had tried. However, similar to the limitation discovered in the first strategy, researchers in the area of AL, in its broadest sense, do not always call their work AL and, thus, are unlikely to actually use the term AL in the text of their work.

I reasoned, however, that researchers in any of the AL subject areas would be applying linguistics to real-life applications, a sentiment often used in defining Applied Linguistics as discussed in Chapter 2 (Literature Review). At the very least, it would be no less likely that the researcher use the term linguistics than they would the term applied linguistics. At the very best, this search would have the potential to capture all theses on the topic of AL.

This search strategy resulted in low precision but high recall. “Precision is the measurement of how many of the documents retrieved are relevant” (Taylor, 2004, p. 251) whereas “[r]ecall is the measurement of how many of the relevant documents in a system are actually retrieved” (Taylor, 2004, p.251).

Such a broad search of theses having the term linguistics in its document text did, indeed, result in a very large number of theses (n=439), many of which
did not represent Linguistics research overall, and certainly not AL research. However, I felt this limitation could be overcome by personally analyzing each one to determine if its main subject could be considered Linguistics-related. Next, I planned to select the AL theses from the Theoretical Linguistics theses.

Thus, the next step was to manually eliminate theses that did not have Linguistics as their main subject. I followed a subject analysis process discussed by Taylor (2004) which involves examining the parts of the document (title, subtitle, table of contents, introduction, index terms, abstract, illustrations, captions and more) (p. 247-248). I read each title and abstract to determine its main subject. For each thesis, I determined whether or not it covered an area relating to Linguistics. If not, it was eliminated from the collection.

Examples of theses that had belonged to this category are Rule-following, meaning and thinking about thought, by J. Fowke at the University of Alberta and Tobacco and alcohol as product complements by K. Richards at the University of Guelph. Though linguistics may be considered in these theses, their general subject area was deemed something other than linguistics.

A large number of theses (n=208) remained. I determined that each thesis would take approximately 30 minutes for analysis. More than two hundred theses would be too large a collection for me to analyze. Thus, I completed a brief analysis of each thesis, assigning each with a general subject area within the domain of linguistics.
Of the several subject areas identified, I found that the topic of SLTL was the focus of a large number of theses (n=58) whereas the other 142 theses were spread thinly across many other varied topics, some which were not AL and some that were.

Examples of theses in this category are Covert contrast in the speech of an adolescent with Apraxia of Speech: A case study by K. Churchill at Memorial University of Newfoundland and Lost voices: How print media and municipal policy ignore the needs of the inadequately housed in Calgary, Alberta by J. Veenendaal at the University of Lethbridge. Though these theses were deemed to fit under Linguistics as a general topic, a more specific subject analysis categorized them under something other than SLTL.

Using the SLTL subtopic as a defining parameter seemed to be a reasonable compromise. First, SLTL is a major component of AL so my initial interest was partially fulfilled. Second, it allowed me to narrow my scope. Third, much of the previous research that had investigated the trends in research methodologies (see for example, Benson, Chik, Gao, Huang & Wang, 2009; Gao, Li & Lu, 2001; Henning, 1986; Lazaraton, 2000, 2002, 2005; Thomas, 1994; Wenfeng & Gao, 2008) had focused on this particular AL subtopic, SLTL. By using the same topic focus, I would better be able to compare my findings with theirs.

This overview has explained, in general terms, the process of selecting a list of theses. Below, more specific details are provided.
ProQuest Dissertations and Theses (PQDT) database

PQDT has a strong tradition in providing theses and dissertations in partnership with other well-known organizations such as Michigan’s UMI microforms. PQDT has an excellent search engine that allowed me to search more precisely and more completely than any other database could. I considered including Theses Canada, individual library catalogues, and WorldCat but none of these offered the content, search or access capabilities that PQDT did.

On August 8, 2010, I accessed the PQDT database to search for the theses to be included in the collection. More specifically, my search strategy was:

[Linguistics (Document Text) OR Linguistics (Subject)] AND Canada (School Name/Code) AND 2008-2010 (Date Range) AND English (Document language) AND NOT Ph.D (Degree).
Figure 3 Search Strategy Using the PQDT Database Search Interface

Document Text; Subject

This search strategy allowed me to find all theses in the PQDT database that had the word ‘linguistics’ somewhere within its text or those that had the word ‘linguistics’ as the subject term used to describe the thesis’ main topic. This component of the search strategy was intentionally kept broad enough to prevent the chance of missing relevant theses.
My particular interest was in the research being conducted in Canadian universities. In the PQDT database, I found that Canadian universities were named using the following format: Name of Canadian University (Canada). Thus, by entering the term “Canada” into this search box, I was searching all and only Canadian universities.

Date Range

The 2008-2010 date range was specified in the search strategy. I chose 2008 as the beginning year of the range because it is from this year on that PQDT began making use of Optical Character Recognition (OCR) technology which allowed the full text of each document to be searched. Theses available through PQDT and published before 2008 did not consistently have this feature.

Beginning with 2008 graduate works, paper submissions will be undergoing Optical Character Recognition (OCR) scanning in order to provide full text searching. Full text searching will improve discoverability, increasing search precision and recall for individual researchers (ProQuest Support Centre, 2011, para 1).

Because my search was to include theses with the word ‘linguistics’ located in the document text, only those using OCR technology would be appropriately searched. Thus, I limited my search to those published in 2008 and later.
Only theses written in English were included in this search. Though I would have liked to include French theses, this would have broadened the scope of my research significantly.

Degree

I choose not to include PhD dissertations in order to keep the scope of this research study to theses completed at the Master's level.

Cross checking to minimize missing those that should have been included

Having obtained a list of theses (n=435) that provided a representation of theses produced across Canada having to do with the subject area of linguistics, based on the records held in the PQDT database, I wanted to cross check with other sources to minimize my missing other theses that should have been included in the collection.

The Association of Universities and Colleges in Canada (AUCC) represents officially recognized universities and provides access to a database of information about them. For example, this database provides information relating to the programs and degrees offered at each institution. Thus, it was possible for me to search the AUCC database to determine what Canadian universities offer graduate programs at the Masters level in linguistics or language-related areas.
A search of the AUCC database resulted in a list of 23 universities. I determined which universities were not represented in my collection and in trying to determine why they were not included, discovered that some universities did not provide their thesis information to the PQDT database. One of these was the University of British Columbia (UBC).

Because UBC's institutional repository (cIRcle) offered search functionality that allowed me to conduct the same search of the full text document that PQDT had, I was able to include the theses produced by UBC in my collection. I followed the same process with the cIRcle database as I did with the PQDT database.

I did an advanced search of cIRcle's Graduate Theses and Dissertations community. I searched for all theses containing the word 'linguistics' in its text and those copyrighted 2008. I subsequently searched for those copyrighted in 2009 and 2010. I conducted this search on August 22, 2010. My results included a few theses published in languages other than English, which were omitted from the list, as were PhD dissertations that my automated search had not filtered out.

The resulting number of theses was 169. These were added to the Rough Collection obtained from the PQDT database search.
Unfortunately, there were some universities that were not represented in the PQDT database and did not provide full text searching of their theses via their library catalogues or institutional repositories, if they had one. Thus, I could not access the information I needed to determine what theses, if any, from these institutions might have belonged in the collection.

Another way that I cross-checked was by comparing the PQDT search results with lists from relevant departments. I contacted several departments to obtain lists of theses that had been completed by their Master's students during the specified time period.
Carleton University’s School of Linguistics and Applied Language Studies (SLALS) department provided me with a list of completed Master’s theses produced by that department as did the Department of Linguistics at the University of Victoria. I was also able to learn that such a list did not exist at Brock University where the program was, at that time, only beginning to produce theses. Thus, at that point, none existed. I was able to find a list on the website of York University but all of the theses listed there were from 2004 and earlier and were, therefore, not relevant.

I compared the lists obtained from Carleton University and the University of Victoria with what I had included in my collection. Aside from a few examples where it could be assumed that the theses were too recent to have yet made it through the process of being available in the PQDT database, all theses in the lists provided by these two departments matched what I had in the list obtained from the PQDT database. In one case, I could not locate the thesis from any source and had to accept that it would not be represented in my collection.

Elimination of non-linguistics theses

The broad search of PQDT resulted in a list of 435 theses and the broad search of cIRcle resulted in a list of 169 theses. In total, the number of theses in this Rough Collection was 604.

The next step was to manually eliminate theses that did not have linguistics as their main subject. I read each title and abstract to determine its main subject. For each thesis, I first determined whether or not it covered an area
relating to linguistics. If not, it was assigned a major subject and eliminated from what would become the Fine Collection.

I read each title and abstract and determined what category of general studies it would best fit within based on my knowledge of subject areas used in academic institutions. If a thesis was interdisciplinary to the extent that no one subject area was obvious, I assigned two subject areas. In tallying up the scores, half points or third points were given so that each thesis could contribute only one full point. Scores were tallied up based on the subject areas. Some relevant subject areas were merged. Of course, some subject areas were broader in scope and some were narrower in scope; but it is hoped that the reader can get a general sense of the peripheral fields that used the word linguistics in the text of their theses from Figure 5, below.

![Figure 5 Number of Excluded Theses by Academic Subject Area](image)

*Figure 5* Number of Excluded Theses by Academic Subject Area
In Figure 5 above, only subject areas represented by at least three theses were included in order to focus on the subject areas most highly represented.

To better illustrate the process used in selecting the collection of theses, Figure 6, below presents the process visually. The PQDT and cIRcle searches resulted in a collection of 604 theses having the word linguistics in its document text. A first round of subject analysis resulted in a collection of 208 theses (see Appendix C) that were on the topic of Linguistics, generally. A second round of subject analysis resulted in the final collection of 58 theses (see Appendix D) that were on the topic of Second Language Teaching and Learning.

Figure 6 Process of Selecting the Collection of Theses
3.1.3. Strategy 3: Database Search of “Language Teaching” or “Language Learning”

Though Strategy 2 worked and was ultimately the strategy employed in this study, one might wonder why I did not obtain my list by searching for all theses containing 'Language Teaching' or 'Language Learning' in their document texts.

In fact, I attempted this strategy to determine how it might compare to Strategy 2. The result was a list of theses that were much more relevant to Education than they were to Linguistics. Strategy 2 had built in a preference for linguistics-based research because the initial search results included only theses that had the word linguistics in them. Strategy 3 did not limit the results to those having a linguistics slant. Because I was more interested in the linguistics-based perspective of SLTL, I decided that Strategy 2 was a better fit than Strategy 3.

Additionally, one might wonder why, if I ultimately chose to investigate SLTL theses, did I not revisit Strategy 1 where I had found Canadian university departments in AL mostly focusing on SLTL topics.

I did not choose this route because I did not want to miss theses produced outside of their traditionally named departments. For example, Carleton University’s School of Linguistics and Applied Language Studies (SLALS) would not have been included if I focused on only AL programs by name.
Additionally, I would have missed out on theses contributing to the SLTL field of research but that were produced via programs outside of where I would have thought to look for them, for example, in Computer Science programs.

In sum, sampling Strategy 1 did not account for the complexity of the use of the term Applied Linguistics and thus, could not be used. Sampling Strategy 2 was the one that was used. Sampling Strategy 3 resulted in a collection leaning towards Education rather than Linguistics. The next section provides more detail on the collection's characteristics. Citations of the 58 theses are provided in Appendix D.

3.2 Characteristics of the Collection of Theses

Through the process described as Strategy 2 in the previous section, I obtained a final list of 58 theses published by Master's students at Canadian universities from 2008 to 2010 which were on a topic relating to Second Language Teaching and Learning (SLTL), generally with a linguistics perspective.

Other characteristics of the collection were determined based on the distribution across Canadian universities, degrees earned and years published.
3.2.1 Theses by University

Eighteen Canadian universities were represented in this collection. The four universities most highly represented were Concordia University (12; 21%), University of Toronto (10; 17%), University of British Columbia (7; 12%) and Carleton University (5; 9%).

The full results are shown in Table 1 which also includes data on the number of graduate students at each university and the numbers of SLTL related theses per 1000 students. More details on the significance of those columns are provided further below.
Table 1 Number (and Percentage) of Theses Completed by University and by Second Language Teaching and Learning Related Theses by University Graduate Student Enrolment

<table>
<thead>
<tr>
<th>University</th>
<th>Number of Theses</th>
<th>Number of Graduate Students¹</th>
<th>Number of Second Language Teaching and Learning Related Theses by Graduate Student Enrolment³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concordia University</td>
<td>12 (21%)</td>
<td>5130</td>
<td>2.3</td>
</tr>
<tr>
<td>University of Toronto</td>
<td>10 (17%)</td>
<td>15100²</td>
<td>0.6</td>
</tr>
<tr>
<td>University of British Columbia</td>
<td>7 (12%)</td>
<td>9640</td>
<td>0.7</td>
</tr>
<tr>
<td>Carleton University</td>
<td>5 (9%)</td>
<td>2800</td>
<td>1.8</td>
</tr>
<tr>
<td>McGill University</td>
<td>3 (5%)</td>
<td>8330</td>
<td>0.1</td>
</tr>
<tr>
<td>Queen's University</td>
<td>3 (5%)</td>
<td>4420</td>
<td>0.7</td>
</tr>
<tr>
<td>University of Alberta</td>
<td>3 (5%)</td>
<td>7290</td>
<td>0.4</td>
</tr>
<tr>
<td>University of Manitoba</td>
<td>3 (5%)</td>
<td>3270</td>
<td>0.9</td>
</tr>
<tr>
<td>University of Calgary</td>
<td>2 (3%)</td>
<td>6750</td>
<td>0.3</td>
</tr>
<tr>
<td>University of Victoria</td>
<td>2 (3%)</td>
<td>3020</td>
<td>0.7</td>
</tr>
<tr>
<td>Brock University</td>
<td>1 (2%)</td>
<td>1470</td>
<td>0.7</td>
</tr>
<tr>
<td>Dalhousie University</td>
<td>1 (2%)</td>
<td>3780</td>
<td>0.3</td>
</tr>
<tr>
<td>Royal Roads University</td>
<td>1 (2%)</td>
<td>3180</td>
<td>0.3</td>
</tr>
<tr>
<td>Simon Fraser University</td>
<td>1 (2%)</td>
<td>4660</td>
<td>0.2</td>
</tr>
<tr>
<td>St. Francis Xavier University</td>
<td>1 (2%)</td>
<td>360</td>
<td>3.0</td>
</tr>
<tr>
<td>University of Waterloo</td>
<td>1 (2%)</td>
<td>4410</td>
<td>0.2</td>
</tr>
<tr>
<td>University of Windsor</td>
<td>1 (2%)</td>
<td>1830</td>
<td>0.5</td>
</tr>
<tr>
<td>Wilfred Laurier University</td>
<td>1 (2%)</td>
<td>1260</td>
<td>0.8</td>
</tr>
</tbody>
</table>

1. Fall 2010 preliminary full-time and part-time enrolment at AUCC member institutions (rounded to the nearest 10) Full time Graduate + Part Time Graduate


2. The University of Toronto including its colleges.
3. Per 1000 students.

These results give an indication of where Master's level research in SLTL was being produced during the 2008 – 2010 period.
Concordia University had the highest representation in this collection, with 12 (21%) of the theses. The University of Toronto was highly represented with 10 (17%) of the theses as was the University of British Columbia with 7 (12%) and Carleton University with 5 (9%) theses.

It is also interesting to consider the numbers alongside the number of graduate students enrolled in each of these universities. Concordia University and Carleton University had a large number of theses represented in this collection compared to the number of graduate students enrolled in those universities.

However, there are a number of limitations to address. First, the data obtained for this table consist of graduate student numbers. That is, both Master’s and PhD students are included in this number.

Second, the graduate student numbers are based on all graduate students across all departments. Thus, if a particular university has larger numbers of graduate students across many other departments and across departments such as Law, Dentistry, Medicine or Education which are not common to all universities, their numbers will be accordingly much larger than those not having these programs.

Because of these variables alone, it is difficult to conclude much from these numbers.

On the other hand, what can be gained is the knowledge that universities such as Concordia University and Carleton University showed a higher concentration of graduate students producing Master’s theses on SLTL topics.
One potential explanation I can suggest is that these two universities are located in cities where the influence of French-English bilingualism may influence interest in SLTL more than universities located in other cities. As shown in Chapter 4 (Results and Discussion), French-English topics were very popular within this collection of theses.

3.2.2 Theses by Degree

The vast majority, 47 of 58 (81%), of the theses were completed as requirements for the Master of Arts (M.A.) degree. The Master of Education (M.Ed.) was the degree pursued by 8 (14%) of the authors of these theses, with the Master of Science (M.Sc) by 2 (3%) and the Master of Computer Science (M.CompSci) by 1 (2%).

<table>
<thead>
<tr>
<th>Name of Degree</th>
<th>Number (and Percentage) of Theses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master of Arts (M.A.)</td>
<td>47 (81%)</td>
</tr>
<tr>
<td>Master of Education (M.Ed.)</td>
<td>8 (14%)</td>
</tr>
<tr>
<td>Master of Science (M.Sc.)</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Master of Computer Science (M.CompSci)</td>
<td>1 (2%)</td>
</tr>
</tbody>
</table>

3.2.3 Theses by Year

Thirty (52%) of the theses were published in 2008, 25 (43%) were published in 2009 and 3 (5%) were published in 2010. However, this table is misleading without pointing out that the much lower number of completed theses in 2010 is
due to my collecting the data in Aug 2010, before the entire year was yet complete. Additionally, it takes time for a completed thesis to become accessible in the PQDT database and this biases this collection towards those completed in 2008 compared to those completed in 2009 or 2010.

Table 3 Number (and Percentage) of Theses Completed by Year

<table>
<thead>
<tr>
<th>Year of Publication</th>
<th>Number (and Percentage) of Theses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>30 (52%)</td>
</tr>
<tr>
<td>2009</td>
<td>25 (43%)</td>
</tr>
<tr>
<td>2010</td>
<td>3 (5%)</td>
</tr>
</tbody>
</table>

These theses were used as primary sources for the data collection methods that I explain in the next section.

3.3 Data Collection

The data was collected using content analysis as a method. Though content analysis has come to mean more than it originally signified, it "started its methodological life as a research tool which counted the frequency of particular words, images or category of articles" (McNeil, 2005, p. 160.)

To aid in the collection of data, I created a database using Microsoft Office Access 2007. I collected data relating to the Primary Research Questions and the Secondary Research Questions. More details for each field of data collected, relating to each research question, are provided below.
3.3.1 Primary Research Questions

The title, abstract and table of contents were helpful in providing some information about the Research Paradigm, the Research Methods and the Statistical Analyses used, if any. However, the methodology and results sections contained the most detail. I scanned these sections, sometimes several times, in order to get the detail required to complete the required database fields.

RQ1. Which research paradigms were most used in recent Second Language Teaching and Learning Master's level research?

To determine what Research Paradigm was used in each thesis I created and used a form. (See Appendix A for the form and Appendix B for further detail on the form.)

For each thesis, I chose one of five options: Quantitative, Quantitative Mixed, Mixed, Qualitative Mixed and Qualitative.

RQ2. What research methods were most used in recent Second Language Teaching and Learning Master's level research?

To determine what Research Methods were used in each thesis, I noted keywords as I read through each of the sections of the thesis. The sections that were most informative were the title, the abstract, the table of contents, and the methodology section. I added these keywords to my database.
RQ3. What **statistical analyses** were most used in recent Second Language Teaching and Learning Master's level research?

To determine what Statistical Analyses were used in each thesis, I followed the same procedure as used in determining the Research Methods. That is, I scanned the thesis looking for statistical terms that had been used to describe the analysis. The sections that were most informative were the title, the abstract, the table of contents, the list of tables and figures and the methodology section, especially the data analysis section.

3.3.2 Secondary Research Questions

To determine the number of times a particular word was used in a thesis, I used the CTRL + F function to find the occurrences of the word in the document. I searched for "qualitative", "quantitative", "mixed" and "triangula". In each occurrence retrieved, I checked that it was used in the appropriate context. That is, not relating to a "triangular prism" (Voytsekhovska, 2008) or "mixed classes at the high school level" (Abdi, 2009), for example.

I also checked that each occurrence had been written as part of the author's report as opposed to being in an attached appendix that had not been created by the author. I counted the number of appropriate occurrences and recorded the number in the database.

Other data were collected as I came across them. For example, while reading through each thesis, it was usually easy to determine whether or not
human participants were used and that information was recorded in the database.

If human participants were used, I did a CTRL + F search of the document for "ethic" or "consent" which helped me to identify if the researcher had considered ethical implications when including human participants in their research design. I also checked the table of contents and appendices for documentation relating to having gained research ethics approval.

As I read through each thesis, I noted what language backgrounds were considered in each case. That is, the topic being Second Language Teaching and Learning, each thesis naturally comprised of at least one Base Language and at least one Target Language.

Base Language referred to the first or subsequent language from which another language is being learned. I developed this term and its definition for the purposes of this thesis. Target Language is "that which one aims to teach, learn, translate into, etc." (Matthews, 2007).

Not all theses involved human participants but even in cases where it was a textbook being analyzed, for example, there was an inherent Base and Target Language incorporated into the thesis. I recorded these languages in the database.

In some cases, not all languages were listed in the thesis, either because there were too many to list or they were unknown. In other cases, details about the language were not provided. In those cases, I used the term used by the
author. This meant that some languages recorded in the data of the current thesis were approximations. For example, I used ‘African language’ as supplied by the author, rather than using a more specific language.

I recorded the number of pages and the number of references based on the data provided by the PQDT record, or, in some cases, by counting the number of references manually.

3.4 Data Analysis

With my data collected and stored conveniently in a database, most of the data analyses were rather straightforward. As with the Data Collection, I analyzed the data relating to the Primary Research Questions and the Secondary Research Questions. More details for each of the data analyses are provided below.

3.4.1 Primary Research Questions

RQ1. Which research paradigms were most used in recent Second Language Teaching and Learning Master’s level research?

The data for research paradigm was straightforward to analyze as it consisted of a number 1-5 representing Quantitative (1), Quantitative Mixed (2), Mixed (3), Qualitative Mixed (4), and Qualitative (5). Thus, using the sort function of the database, I counted the number of theses in each category.
RQ2. What research methods were most used in recent Second Language Teaching and Learning Master's level research?

The data for Research Methods were not as straightforward to analyze as many of the other fields of data had been. In this case, natural language used by the researchers had been pulled from each thesis. To analyze these natural language keywords, I grouped each term into major themes.

With the major themes identified, I counted the number of theses that made use of each Research Method theme. Note that many theses made use of multiple methods.

An image that illustrates how themes for research methods were grouped and categorized is displayed below. Each line represents one thesis and the various research methods used within it.
RQ3. What statistical analyses were most used in recent Second Language Teaching and Learning Master’s level research?

To analyze the Statistical Analyses used in each thesis, I followed the same procedure as used in analyzing the Research Methods. That is, because the data were collected as natural language terms, rather than as controlled vocabulary terms, I had to group each term into major themes. Because there were too many statistical terms to be reasonably included in my analysis, I chose 12 major themes to work with. The major themes that had been identified by Lazaraton (2000, 2005) and by Martynchev (2009) were combined to become the major themes used in the present study. The major themes were placed within the categories of descriptive statistics and inferential statistics which included
both parametric and nonparametric statistics. Note that many theses made use of multiple statistical analyses.

With the major themes identified, I counted the number of theses that made use of each statistical analysis theme. For each major theme, I used PDF-XChange software program to search all theses for each of the identified themes. For example, because one of my identified themes was ANOVA, I did a computer search for all instances of that word within each thesis' text. In this way, I was able to identify occurrences that were missed in my manual searching of the document.

3.4.2 Secondary Research Questions

Descriptive analyses were used for these fields.

The number of times the words ‘qualitative’, ‘quantitative’, and ‘mixed’ were used across all theses were tallied and divided by the total uses of all terms to determine the percentage use of each term. The range of number of uses per thesis was reported based on sorting the data.

The number of times the word ‘triangulation’ or ‘triangulate’ were used in each thesis and across all theses was tallied. The number (and percentage) of theses using this term were calculated.

The number of theses that used human participants were counted and compared to the number of theses that did not use human participants. Of those
that did include human participants, the number of theses that made mention of ethical considerations were counted. In all cases, percentage was also calculated.

I counted the number of instances each language was used as a Base Language or as a Target Language.

To analyze the number of pages and the number of references, means, medians and ranges were calculated.

This chapter described the methodology in detail. Chapter 4 presents the results and discussion.
Chapter 4 – Results and Discussion

Having provided details about the methods used to investigate the research questions guiding this thesis in Chapter 3, in this chapter, I report on and discuss the results of the data analysis in relation to the research questions:

- Section 4.1 provides results and discussion of the three primary research questions focused on the Research Paradigms, Research Methods and Statistical Analyses used in the theses; and,
- Section 4.2 provides results and discussion of the secondary research questions that addressed the use of the terms 'quantitative', 'qualitative' and 'mixed', the term 'triangulation'; the use of human participants and mentions of ethics, and the Base and Target Languages considered in each thesis. Additionally, the mean, median, mode and range of the number of pages and the number of reference are included in this section. For additional details on data collection, please see Chapter 3 (Methodology) section 3.2 Data Collection. Data analysis is described in section 3.3 in Chapter 3.

4.1 Primary Research Questions

Section 4.1.1 provides results and discussion on Research Question 1, relating to Research Paradigms. Section 4.1.2 addresses Research Question 2
concerning Research Methods. Research Question 3, Statistical Analyses, is discussed in section 4.1.3.

4.1.1 Research Paradigms

RQ1. Which research paradigms were most used in recent Second Language Teaching and Learning Master's level research?

The five categories of research paradigms were Quantitative (17; 29%), Mixed Quantitative (11; 19%), Mixed (7; 12%), Mixed Qualitative (10; 17%) and Qualitative (13; 22%).

Of these five categories, the quantitative research paradigm was used the most frequently.

In previous research by others, fewer than five categories were used. Thus, to compare the results of the current study to the results of previous studies, I aggregated my results into the broader categories in addition to their more specific categories. 'Grouped by Mixed' groups 'Quantitative Mixed', 'Mixed' and 'Qualitative Mixed' categories together. 'Grouped by Extremes' combines the categories of 'Quantitative' and 'Quantitative Mixed' together and the categories 'Qualitative Mixed' and 'Qualitative' together as illustrated in the table below.
Table 4 Number (and Percentage) of Theses Completed by Five Research Paradigms, Grouped by Mixed and Grouped by Extremes

<table>
<thead>
<tr>
<th>Research Paradigm</th>
<th>Number (and Percentage) of Theses</th>
<th>Grouped by Mixed</th>
<th>Grouped by Extremes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative</td>
<td>17 (29%)</td>
<td>17 (29%)</td>
<td>28 (48%)</td>
</tr>
<tr>
<td>Quantitative Mixed</td>
<td>11 (19%)</td>
<td>28 (48%)</td>
<td></td>
</tr>
<tr>
<td>Mixed</td>
<td>7 (12%)</td>
<td>28 (48%)</td>
<td>7 (12%)</td>
</tr>
<tr>
<td>Qualitative</td>
<td>10 (17%)</td>
<td></td>
<td>23 (40%)</td>
</tr>
<tr>
<td>Qualitative Mixed</td>
<td>13 (22%)</td>
<td>13 (22%)</td>
<td></td>
</tr>
</tbody>
</table>

1. Minor arithmetic discrepancies in the table are due to rounding.

When all categories were ‘Grouped by Mixed’, Mixed paradigms (28; 48%) were used more than Quantitative (17; 29%) and Qualitative (13; 22%). On the other hand, if the categories were ‘Grouped by Extremes’, the results show that the Quantitative paradigm were used most (28; 48%), Qualitative research was used second most (23; 40%) and the Mixed paradigm was used least (7; 12%).

Regardless of how the categories are regrouped, the Quantitative paradigm was dominant, compared to Qualitative, in all cases.

On the other hand, when all Mixed categories (Quantitative Mixed, Mixed and Qualitative Mixed) were combined, it showed that nearly half (48%) of theses incorporated some level of mixing in their research.

The data also showed that the extremities along the continuum; Quantitative and Qualitative research, were used more than the paradigms that included a mixture of both.
Previous literature (Henning, 1986; Gao et al., 2001; Lazaraton 2000; 2005) showed how the research paradigms have evolved over time.

Quantitative research has been recognized as a paradigm much longer than Qualitative research and even longer than Mixed methods approaches.

For example, Henning (1986) used only the terms ‘Quantitative’ and ‘Nonquantitative’ as categories in his research article. Gao et al. (2001) used the terms ‘Quantitative’ and ‘Qualitative’. By 2000, Lazaraton included mention of a ‘Partially Qualitative’ category that evolved into ‘Mixed’ by 2005. This evolution, along with the data presented in the table below, suggests that there is a tradition of the Quantitative paradigm being dominant since 1980 (Henning, 1986) in the area of SLTL. With such a tradition behind this paradigm, it is plausible that Master's students have been exposed more to Quantitative research literature and to professors who have also been influenced by the Quantitative research tradition.

Overall, I suggest that Master's students may have chosen to follow a Research Paradigm that is more familiar to them because of its acceptance in the field and because of its already established, strong tradition.

To relate this data to what was found in previous literature that had looked at the Research Paradigms found in academic journal articles, Table 5 below is presented.
Table 5 Research Paradigms across Previous and Current Studies

<table>
<thead>
<tr>
<th>Research Paradigm</th>
<th>Author, Publication Date, Period of Study, Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Henning, 1986</td>
</tr>
<tr>
<td>Quantitative</td>
<td>4 (12%) 7 (25%) 16 (52%) 17 (61%) 39%</td>
</tr>
<tr>
<td></td>
<td>4 (24%) 10 (50%) 14 (67%) 22 (92%)</td>
</tr>
<tr>
<td></td>
<td>Gao et al., 2001</td>
</tr>
<tr>
<td></td>
<td>1991-1997</td>
</tr>
<tr>
<td></td>
<td>292 (88%)</td>
</tr>
<tr>
<td></td>
<td>1991-2001</td>
</tr>
<tr>
<td></td>
<td>450 (86%)</td>
</tr>
<tr>
<td></td>
<td>Martynchev, 2009</td>
</tr>
<tr>
<td></td>
<td>2002-2008</td>
</tr>
<tr>
<td></td>
<td>406 (64%)</td>
</tr>
<tr>
<td></td>
<td>The current study</td>
</tr>
<tr>
<td></td>
<td>2008-2010</td>
</tr>
<tr>
<td></td>
<td>28 (48%)</td>
</tr>
<tr>
<td>Non-quantitative</td>
<td>30 (88%) 21 (75%) 15 (48%) 11 (39%)</td>
</tr>
<tr>
<td></td>
<td>13 (76%) 10 (50%) 7 (33%) 2 (8%)</td>
</tr>
<tr>
<td>Mixed</td>
<td>- - - -</td>
</tr>
<tr>
<td>Partially qualitative</td>
<td>- - - -</td>
</tr>
<tr>
<td>Qualitative</td>
<td>- - - -</td>
</tr>
<tr>
<td></td>
<td>18% 33 (10%) 67 (13%) 177 (28%) 23 (40%)</td>
</tr>
<tr>
<td>Non-empirical</td>
<td>- - - -</td>
</tr>
</tbody>
</table>

"There appears to be a distinct trend towards the quantitative in language acquisition research" (p. 703).

"The West: from quantitative to qualitative" (p. 7).

Excluding data from TESOL Quarterly, "more than 90% of the published articles in the other journals were quantitative" (p. 178).

Excluding data from TESOL Quarterly, "over 85% of the published articles employ quantitative research procedures" (p. 214).

"... a significant increase in qualitative and mixed studies..." (p. 87).
This data showed an increase in Quantitative research at each five year interval from 1970 to 1985. Gao et al. (2001) showed a dramatic drop in the representation of Quantitative research for the period 1985 - 1997. This may be a result of their third category, non-empirical research dominating. Excluding that data as a possible anomaly, there was a peak in Quantitative data for 1991 - 1997 (from Lazaraton, 2000) and it then begins to decrease slightly to 86% for the extended period of 1991 - 2001 (Lazaraton, 2005). Martynchev (2009) showed a continued decline in proportional use of Quantitative research as Qualitative and Mixed research began to increase during the time period, from 2002 to 2008. If current Master’s student research is any indication of what the future might hold for academic journal articles, the data of the current study showed that, though Quantitative research continued to dominate, that dominance declined when compared to the dominance it had in academic journal articles in previous studies.

Though Master’s student research could be considered an indication of the future, I would be remiss if I did not point out that it is possible that there is a higher representation of Qualitative work in the Master’s student population because there is less of an expectation from themselves and from others, to conform to what is expected by the social norms and traditions of the SLTL academic community.

Furthermore, it is conceivable that many Master’s students do not go on in academia to further publish articles in the paradigm their thesis was based on, or at all. Some may enter the workforce in different sectors, for example.
Also, it is possible that Master's students who completed work using paradigms other than the Quantitative approach do not receive the same support from the academic community when applying for scholarships or grants. This would result in their work not being represented in the future.

I point out these possibilities to emphasize that though I believe Master's student work is an indication of the future, there are several factors and their effects are unknown to me.

4.1.2 Research Methods

RQ2. What research methods were most used in recent Second Language Teaching and Learning Master's level research?

Interviews were used the most (34; 59%). Questionnaires/Surveys (26; 45%), Experiments/Quasi-experiments (25; 43%), Analysis of Documents/Transcripts (24; 41%) and Measures/Scores/Tests (20; 34%) were also used extensively. Case studies (16; 28%) and Observations (14; 24%) were very popular. Corpus-based research (5; 9%) and Think-Aloud Protocols (3; 5%) were less popular but still well-represented. Longitudinal research (2; 3%), Action Research (2; 3%) and Phenomenological Research (2; 3%) was minimally represented.

Table 6 displays this data.
<table>
<thead>
<tr>
<th>Research Method</th>
<th>Number (and Percentage) of Theses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>34 (59%)</td>
</tr>
<tr>
<td>Questionnaires/Surveys</td>
<td>26 (45%)</td>
</tr>
<tr>
<td>Experiments/Quasi-experiments</td>
<td>25 (43%)</td>
</tr>
<tr>
<td>Analysis of Documents/Transcripts</td>
<td>24 (41%)</td>
</tr>
<tr>
<td>Measures/Scores/Tests</td>
<td>20 (34%)</td>
</tr>
<tr>
<td>Case Studies</td>
<td>16 (28%)</td>
</tr>
<tr>
<td>Observations</td>
<td>14 (24%)</td>
</tr>
<tr>
<td>Corpus-Based Research</td>
<td>5 (9%)</td>
</tr>
<tr>
<td>Think-Aloud Protocols</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>Longitudinal Research</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Action Research</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Phenomenological Research</td>
<td>2 (3%)</td>
</tr>
</tbody>
</table>

In Chapter 2 (Literature Review), I presented the findings of Benson et al, (2009) and Martynchev (2009) in terms of the Research Methods usage found from their studies. Here, I compare their results with what was found in the present study. I used the categories and the data from the present study as the baseline for this chart. I completed the chart using available data from previous studies and fitting them into the categories that I had defined.
Table 7 Research Methods across Previous and Current Studies

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>-</td>
<td>37 (21%)</td>
<td>17 (32%)</td>
<td>34 (59%)</td>
</tr>
<tr>
<td>Questionnaires/Surveys</td>
<td>-</td>
<td>12 (7%)</td>
<td>7 (13%)</td>
<td>26 (45%)</td>
</tr>
<tr>
<td>Experiments/Quasi-experiments</td>
<td>-</td>
<td>3 (2%)</td>
<td>-</td>
<td>25 (43%)</td>
</tr>
<tr>
<td>Analysis of Documents/Transcripts</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>24 (41%)</td>
</tr>
<tr>
<td>Measures/Scores/Tests</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>20 (34%)</td>
</tr>
<tr>
<td>Case Studies</td>
<td>225 (47%)</td>
<td>44 (25%)</td>
<td>3 (6%)</td>
<td>16 (28%)</td>
</tr>
<tr>
<td>Observations</td>
<td>-</td>
<td>4 (2%)</td>
<td>-</td>
<td>14 (24%)</td>
</tr>
<tr>
<td>Corpus-Based Research</td>
<td>6 (1%)</td>
<td>-</td>
<td>-</td>
<td>5 (9%)</td>
</tr>
<tr>
<td>Think-Aloud Protocols</td>
<td>16 (3%)</td>
<td>-</td>
<td>1 (2%)</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>Longitudinal Research</td>
<td>19 (4%)</td>
<td>-</td>
<td>-</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Action Research</td>
<td>4 (&lt;1%)</td>
<td>2 (1%)</td>
<td>-</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Phenomenological Research</td>
<td>2 (&lt;1%)</td>
<td>-</td>
<td>-</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Ethnography</td>
<td>49 (14%)</td>
<td>11 (6%)</td>
<td>2 (4%)</td>
<td>-</td>
</tr>
</tbody>
</table>

Interviews and Questionnaires/Surveys were very popular in the present study but were not mentioned at all in Benson et al., (2009). It is quite possible that studies that included interviews, questionnaires or surveys were categorized under other terms such as ‘Case Study’ or ‘Ethnography’. These categories had relatively high representations in the Benson et al. (2009) study.

Experiments/Quasi-experiments, which were also popular in the present study, were not represented in the Benson et al. (2009) work. This may be attributed to the fact that their study had focused only on qualitative research which would have excluded experimental research.

What was surprising was the discrepancy between the two studies in terms of Ethnography and Longitudinal Research. Both were highly represented in Benson et al. (2009) but barely represented in the present study. Both
Research Methods require major commitments from the researcher. Perhaps this is a case where Master's students avoided these research methods due to the nature of their thesis work which is normally limited to one to two years commitment.

To compare the results of Martynchev (2009), it is important to note that she included 24 categories of research 'methodologies' and this affected the comparability of her study to mine which included only 12 categories. Also, she separated her results into those that had come from Qualitative studies versus those that had come from Mixed studies. That Quantitative studies were not analyzed in terms of research methods explains why categories such as Experiment/Quasi-experiment and Measures/Scores/Tests were not included in her study.

Comparing the results of these three studies was difficult because of the conflicting variables. Both Benson et al. (2009) and Martynchev (2009), in this part of her analysis, discussed qualitative research exclusively, which biased the categories towards research methods more aligned with the qualitative paradigm.

Nearly 60% of the Master's theses employed some form of interview as a Research Method and 45% (26) used surveys/questionnaires.

Various stakeholders may benefit from knowing that interviews and surveys/questionnaires were as popular as these results suggest. On the one hand, instructors of research methods courses may want to use this information to help focus their teaching on particular methods. On the other hand, methods
that did not seem as popular may be brought into the spotlight so that more students will explore these methods in the future.

One might wonder why these Research Methods were more popular than they were in academic journal articles.

Perhaps interviews and surveys/questionnaires appeal more to novice researchers because they seem more familiar with similar techniques found in the non-academic world around us. For example, interviews can be seen regularly on television and news programs. Additionally, the general public is routinely asked to respond to informal surveys/questionnaires from marketing companies.

With these methods somewhat familiar to the general public, they may be more easily accessible to the novice researcher.

Also, there are many types of interviews (semi-structured interview, semi-guided interview, focus group interview, picture-based interview, pre-post test/task interview and open-ended interview) and many types of surveys/questionnaires (background questionnaire, pre-post test/task questionnaire, online questionnaires, online surveys, demographic questionnaire, language use questionnaire, background information questionnaire) that were represented across the collection of Master's theses. The variety that these research methods offer may make them inherently more likely to be used by Master's level researchers.
4.1.3 Statistical Analyses

RQ3. What statistical analyses were most used in recent Second Language Teaching and Learning Master’s level research?

Almost 80% of the theses made some use of statistics in their analyses. That is, forty-six (79%) made use of statistics, whereas 12 (21%) did not.

Table 8 Number (and Percentage) of Theses by Use of Statistical Analyses

<table>
<thead>
<tr>
<th>Use of Statistical Analyses</th>
<th>Number (and Percentage) of Theses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>46 (79%)</td>
</tr>
<tr>
<td>No</td>
<td>12 (21%)</td>
</tr>
</tbody>
</table>

Of those using statistics, the most commonly used analyses were Descriptive Statistics which were represented in 100% of the theses that used statistics. Inferential Statistics were very highly represented 33 (72%). All of the theses that used Inferential Statistic used Parametric Statistics. Only 2 (4%) used the Non-Parametric chi-square test 2 (4%)
Table 9 Statistical Analyses Across Previous and Current Studies

<table>
<thead>
<tr>
<th>Statistical Analyses</th>
<th>Lazaraton, 2005</th>
<th>Martynchev, 2009</th>
<th>The present study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>-</td>
<td>-</td>
<td>37 (80%)</td>
</tr>
<tr>
<td>Frequency</td>
<td>-</td>
<td>-</td>
<td>36 (78%)</td>
</tr>
<tr>
<td>Percentage</td>
<td>-</td>
<td>-</td>
<td>31 (67%)</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>-</td>
<td>-</td>
<td>21 (46%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Lazaraton, 2005</th>
<th>Martynchev, 2009</th>
<th>The present study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parametric</td>
<td>-</td>
<td>-</td>
<td>33 (72%)</td>
</tr>
<tr>
<td>t-test</td>
<td>102 (23%)</td>
<td>130 (32%)</td>
<td>20 (43%)</td>
</tr>
<tr>
<td>ANOVA</td>
<td>199 (44%)</td>
<td>170 (42%)</td>
<td>18 (39%)</td>
</tr>
<tr>
<td>Reliability measures</td>
<td>-</td>
<td>56 (14%)</td>
<td>16 (35%)</td>
</tr>
<tr>
<td>Correlation (Pearson)</td>
<td>126 (28%)</td>
<td>77 (28%)</td>
<td>12 (26%)</td>
</tr>
<tr>
<td>Regression analysis</td>
<td>56 (13%)</td>
<td>55 (14%)</td>
<td>7 (15%)</td>
</tr>
<tr>
<td>MANOVA</td>
<td>31 (7%)</td>
<td>28 (7%)</td>
<td>3 (7%)</td>
</tr>
<tr>
<td>Factor analysis</td>
<td>27 (6%)</td>
<td>14 (3%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>ANCOVA</td>
<td>25 (6%)</td>
<td>12 (3%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Non-Parametric</td>
<td>-</td>
<td>-</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>Chi-square</td>
<td>48 (11%)</td>
<td>61 (15%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>Correlation (Spearman rank)</td>
<td>-</td>
<td>2 (2%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Further break down of the Descriptive Statistics were Means at (37; 80%), Frequencies (36; 78%), Percentage 31 (67%) and Standard Deviations (21; 46%).

Parametric tests included t-tests (20; 43%), ANOVA (19; 39%), regression analyses (7; 15%), correlation analyses (7; 15%), MANOVA (3; 7%), Factor Analyses (2; 4%) and ANCOVA (1; 2%).

Non-parametric statistics were represented with the Chi-square test (2; 4%).

Descriptive Statistics were used in 46 (100%) of the theses that used Statistics. Lazaraton’s (2005) findings showed only 377 (84%) and Lazaraton herself commented on being surprised that the number was not 100%.
I infer from Lazaraton's (2005) commentary that the Descriptive Statistics may not have been reported on in some journal articles because of space limitations. Writer's of journal articles do not have the same flexibility that writer's of Master's theses have in terms of the lengths of their reports.

According to this data, the t-test gained in popularity over the years; 102 (23%) in Lazaraton (2005), 130 (32%) in Martynchev (2009) and 20 (43%) in the current study.

According to Adeyemi (2009) the most common use of the t-test "is to determine whether the difference between two groups is significant" (p.50). Thus, this increasing popularity in its use may be because of an increasing interest in comparing between two groups of participants.

Just as the t-test gained in popularity over time, ANOVA showed the opposite trend. 199 (44%) in Lazaraton (2005), 170 (42%) in Martynchev (2009) and 20 (43%) in the current study.

The ANOVA is a test of significance "used to compute the differences in the means of more than two groups of data (Kim & Kohout, 1970) (as cited in Adeyemi, 2009).

Though it is possible that the trend is for researchers to design their research on fewer than three groups, it is also plausible that Master's students are more likely to design research in this way because comparing across three or more groups seems quite a bit more ambitious than comparing across two groups. With the limits on the long term commitment and limits in the experience
of a Master's student, it may be that they avoid this more than their more experienced counterparts. That said, nearly 40% of Master's students used the ANOVA. That is rather high representation.

In terms of the reliability measures, there is quite a discrepancy between Martynchev's (2009) findings of 56 (14%) and those of the current study 16 (35%). This discrepancy may be attributed to the fact that I grouped several reliability measures into one category possibly skewing those numbers from Martynchev's (2009) category including only the Cronbach's test of reliability.

Interestingly, the remaining Parametric Statistics (Correlation, Regression analysis, MANOVA, Factor Analysis and ANCOVA) were relatively stable across the three studies.

However, the Chi-square test shows some differences across the three data sets. While Lazaraton (2005) reported 48 (11%) and Martynchev (2009) reported 61 (15%), the current study reported only 2 (4%).

Adeyemi (2009) lists the advantages of the Chi-square test. One is that it is "the most flexible statistical technique for determining whether one's observations differ from what is expected by chance" (p.49) and another is that "because few assumptions exist with Chi-square, it is possible to apply the Chi-square to virtually every analysis where data are in categories" (p.49).

Based on these advantages and that there are few disadvantages it is surprising that more Master's students are not using it. Of course, it may be that the Chi-square does not lend itself to the types of research the students are
interested in. Or it may be that they do not know enough about it to know that they can use it.

This is possible for all of the Statistical Analyses included in this discussion. Further research might investigate what Statistical Analyses are included in Master’s program curricula. Of course, the more exposure the students can get to a wide variety of statistical tools, the more likely they may be to integrate them into their research designs.

4.2 Secondary Research Questions

4.2.1 Word Occurrences

RQ4. How many/what percentage of theses used the words qualitative, quantitative, mixed and triangulation?

Of the 56 theses that were full – text searchable, 32 (57%) used the word 'Quantitative' in its text at least once whereas 24 (43%) of the theses did not make any mention of this word. 'Qualitative' was used in 42 (75%) theses while 14 (25%) of these made no mention of the word. 'Mixed' in the context of a research design was used in 8 (14%) theses. It was not mentioned in 48 (86%) of theses. 'Triangulate' or 'Triangulation' was used in 19 (34%) theses but not mentioned in 37 (66%) of theses.

Table 10 presents this data visually.
Table 10 Number of Theses Using the Words 'Quantitative', 'Qualitative', 'Mixed' and 'Triangulation'

<table>
<thead>
<tr>
<th></th>
<th>Number of Theses with this word occurring in its text</th>
<th>Number of Theses with this word not occurring in its text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative</td>
<td>32 (57%)</td>
<td>24 (43%)</td>
</tr>
<tr>
<td>Qualitative</td>
<td>42 (75%)</td>
<td>14 (25%)</td>
</tr>
<tr>
<td>Mixed</td>
<td>8 (14%)</td>
<td>48 (86%)</td>
</tr>
<tr>
<td>Triangulation</td>
<td>19 (34%)</td>
<td>37 (66%)</td>
</tr>
</tbody>
</table>

The word 'qualitative' occurred in more theses than any of the other paradigm-related words. This is interesting because it was Quantitative, not Qualitative research that had dominated as the actual paradigm used. This may be a result of Quantitative research being such a traditionally dominant Research Paradigm that researchers did not always identify their work or the works included in their literature reviews, as Quantitative whereas those that were employing a paradigm that had been somewhat marginalized in the past, felt it important to identify the paradigm they were employing.

Also interesting, is that the term 'Mixed' was used in only 8 (14%) of theses whereas 28 (48%) were categorized as being 'Mixed'. This may be due to there being several different terms that can be used to describe the mixing of paradigms. It may be that no single term has yet been agreed upon.

I found that, of the 56 full-text searchable theses, 19 (34%) made some mention of the concept of triangulating data. This term may have been mentioned within the literature review or within other sections of the thesis relating to the author’s research. Thirty-seven theses (66%) did not make mention of this term anywhere in the text of their theses. The range of the number of mentions within each thesis was 0 – 13. Across all theses, the term was used 69 times.
I suggest that the number of theses making mention of these terms relate to the degree of awareness these Master's level researchers have of the concept. Because there is not any previous literature with which to compare these findings, I cannot say whether or not the awareness is increasing.

The previous data showed how many theses made mention of each term, even if just once. Table 11 shows the number of mentions of each term across all theses.

Table 11 Number (and Percentage) of Theses by Mentions of the Terms 'Quantitative', 'Qualitative' and 'Mixed' Across All Theses

<table>
<thead>
<tr>
<th>Number (and Percentage) of Mentions of the term</th>
<th>Number (and Percentage) of Mentions of the term</th>
<th>Number (and Percentage) of Mentions of the term</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Quantitative'</td>
<td>'Qualitative'</td>
<td>'Mixed'</td>
</tr>
<tr>
<td>303 (39%)</td>
<td>420 (54%)</td>
<td>60 (8%)</td>
</tr>
</tbody>
</table>

This data also shows the term 'Qualitative' to have occurred more frequently than the term 'Quantitative' and much more frequent than the term 'Mixed. Again, this data may show awareness levels of these terms in Master's students themselves, but whether or not that awareness is increasing cannot be determined by this data alone.

Some theses mentioned a term many times while others made no mention of it. The range for the number of times 'Quantitative' was mentioned was 0 - 51. The range of mentions of 'Qualitative' was 0 - 48 and the range of mentions of the term 'Mixed' was 0 - 32. Twelve (21%) theses that were full-text searchable made no mention of any of these terms. The range for mentions of all terms combined was 0 – 131.
Thus, the usage of these terms by particular Master's students varied widely.

Again, because there is not any previous literature to compare these findings with, I cannot say whether or not the awareness is increasing. However, these numbers do indicate awareness, overall. A higher degree of awareness of the term Qualitative than Quantitative is indicated, whereas Mixed has a rather low degree of awareness.

Though it may seem surprising that awareness is higher for Qualitative when that is not the dominant research paradigm, I would suggest that there is a higher degree of awareness for this term because it is juxtaposed against a term, Quantitative, which enjoys full acceptance to the point of possibly not requiring mention.

4.2.2 Use of Human Participants

RQ5. How many/what percentage of theses gathered their data via human participants? Of these, what percentage mentioned ethical considerations in their report?

Fifty-three (91%) theses included the use of human participants. Five (9%) did not include human participants, directly.
Table 12 Number (and Percentage) of Theses by Use of Human Participants

<table>
<thead>
<tr>
<th>Use of Human Participants</th>
<th>Number (and Percentage) of Theses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>53 (91%)</td>
</tr>
<tr>
<td>No</td>
<td>5 (9%)</td>
</tr>
</tbody>
</table>

The five theses that did not involve human participants directly researched in areas such as textbook analysis (3) or used data that had been collected from human participants previously (2).

Various academic stakeholders may benefit from knowing how prevalent the use of human participants is within SLTL Master's level research. For example, this information may inform changes in the curriculum or the support services available to students completing ethics applications. Ethical review boards might use this information to inform their current practices which some (Fox et al., 2006) highlight as being unnecessarily onerous.

Additionally, Master's students may decide to explore the available alternatives to research involving human participants. Though the extensive use of human participants in research relating to SLTL is quite understandable, there is room for other research populations (other than humans) to be explored.

4.2.3 Mention of Ethics

Five theses of the 58 did not involve human participants and would, therefore, not be expected to make mention of ethical considerations related to having included human participants in their research design.
However, of the 53 theses that did use human participants, 46 (87%) made mention of ethical considerations associated with the inclusion of human participants. Seven (13%) did not.

Table 13 Number (and Percentage) of Theses by Mention of Ethics

<table>
<thead>
<tr>
<th>Mention of Ethics</th>
<th>Number (and Percentage) of Theses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>46 (87%)</td>
</tr>
<tr>
<td>No</td>
<td>7 (13%)</td>
</tr>
</tbody>
</table>

“Given the extraordinary emphasis placed in universities on research ethics and ethics review, this is somewhat surprising” (Dr. Janna Fox, personal communication). Indeed, I wondered what might be the reason behind this finding.

Upon further investigation of the data, I found that the theses were produced from a wide range of universities (i.e. University of Alberta (2), Concordia University (2), University of British Columbia (2) and Carleton University (1).

Five of the theses were completed as part of an M.A. program, one was part of an M.Comp program and one was part of an M.Sc program. There were a wide range of departments represented: (Department of East Asian Studies (1), Department of Computer Science and Software Engineering (1), Master of Science (1) School of Linguistics and Applied Language Studies (1), Department of Education (1) and School Psychology (2).

With such a small sample, it is difficult to infer any conclusions from it. However, this may be an interesting area of further research.
4.2.4 Base and Target Languages

RQ6. How many/what languages were considered as Base and Target Languages in these theses? What languages were represented the most?

As previously discussed in Chapter 3 (Methodology), language approximations were sometimes necessary when an author did not specify the language but generalized as in “Asian Languages” or “African Language”. In some cases, the languages were not identified at all. These are included in the table as "Unidentified".

Table 14 Number of Theses Considering Languages as a Base Language, a Target Language or Both

<table>
<thead>
<tr>
<th>Language</th>
<th>Number of Theses Considering this Language as a Base Language or a Target Language</th>
<th>Number of Theses Considering this Language as a Base Language</th>
<th>Number of Theses Considering this Language as a Target Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>57 (98%)</td>
<td>18 (31%)</td>
<td>43 (74%)</td>
</tr>
<tr>
<td>French</td>
<td>15 (26%)</td>
<td>12 (21%)</td>
<td>4 (7%)</td>
</tr>
<tr>
<td>Unidentified</td>
<td>13 (22%)</td>
<td>12 (21%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Chinese</td>
<td>13 (22%)</td>
<td>12 (21%)</td>
<td>0</td>
</tr>
<tr>
<td>Japanese</td>
<td>12 (21%)</td>
<td>9 (16%)</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>Spanish</td>
<td>8 (14%)</td>
<td>5 (9%)</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>Arabic</td>
<td>6 (10%)</td>
<td>5 (9%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Korean</td>
<td>6 (10%)</td>
<td>6 (10%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Farsi/Persian</td>
<td>6 (10%)</td>
<td>5 (9%)</td>
<td>0</td>
</tr>
<tr>
<td>German</td>
<td>4 (7%)</td>
<td>0</td>
<td>4 (7%)</td>
</tr>
<tr>
<td>Portuguese</td>
<td>4 (7%)</td>
<td>4 (7%)</td>
<td>0</td>
</tr>
<tr>
<td>Cantonese</td>
<td>3 (5%)</td>
<td>3 (5%)</td>
<td>0</td>
</tr>
<tr>
<td>Romanian</td>
<td>3 (5%)</td>
<td>3 (5%)</td>
<td>0</td>
</tr>
<tr>
<td>Creole</td>
<td>2 (3%)</td>
<td>2 (3%)</td>
<td>0</td>
</tr>
<tr>
<td>Mandarin</td>
<td>2 (3%)</td>
<td>2 (3%)</td>
<td>0</td>
</tr>
<tr>
<td>Russian</td>
<td>2 (3%)</td>
<td>2 (3%)</td>
<td>0</td>
</tr>
<tr>
<td>Taiwanese</td>
<td>2 (3%)</td>
<td>2 (3%)</td>
<td>0</td>
</tr>
<tr>
<td>Thai</td>
<td>2 (3%)</td>
<td>2 (3%)</td>
<td>0</td>
</tr>
<tr>
<td>Language/Region</td>
<td>Count 1</td>
<td>Count 2</td>
<td>Count 3</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>2 (3%)</td>
<td>2 (3%)</td>
<td>0</td>
</tr>
<tr>
<td>African Language</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>American Sign Language</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Asian Languages</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Caribbean Creole English</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Cree</td>
<td>1 (2%)</td>
<td>0</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Haitian Creole</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Hindi</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Indonesian</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Iraq (Country of Origin)</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Italian</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Jamaican</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Meland (Country of Origin)</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Nura</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Punjabi</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Somalian</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Sri Lanka (Country of Origin)</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Swahili</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Syrian</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Tamil</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Tigrinya</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Tunisian</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Turkish</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>Ukrainian</td>
<td>1 (2%)</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Forty-two languages were represented as languages being studied, learned or analyzed in the theses included in the collection. The English language was dominant in all areas particularly as the language being acquired by learners of other languages. However, there was a wide variety of other languages represented.
In terms of the Base Languages (BL), English was the BL in 18 (31%) of the theses. French (12; 21%), Unidentified languages (12; 21%), Chinese (12; 21%) and Japanese (9; 16%) were highly represented as the BL.

In terms of the Target Languages (TL), English was dominant by far (43; 74%). French (4; 7%) and German (4; 7%) were represented as were Japanese (3; 5%) and Spanish (3; 5%).

Overall, English was a language considered, either as a BL or a TL, in 57 (98%) of the theses. French was represented in 15 (26%) theses, and Unidentified languages were mentioned in 13 (22%) theses. Chinese (13; 22%), Japanese (12; 21%) and Spanish (8; 14%) were also represented quite highly.

The popularity of Japanese is an interesting phenomenon. It is easy to understand why French was well-represented in the collection, Canada being an English-French bilingual country there is great interest and importance attached to this language, either as a BL or a TL. The popularity of the Chinese language can also be understood as many Canadians have Chinese heritage or are immigrants from Chinese speaking countries. However, the interest in Japanese language speakers or learners is not as obvious.

This may be an area of future research. I suggest that the interest in Japanese language speakers or learners is due to various exposure Master’s students may have to Japanese people. Some Master’s students may have taught or studied in Japan and many Japanese people come to Canada to study English on short term visas. The unique relationship between these two countries
as a result of government exchange programs and visa policies may have played a role in the interest Master's level students have had in studying this language as either a BL or a TL.

It is also interesting to look at which language backgrounds were studied in terms of BL versus TL. English was the most popular BL in the studies with 18 (31%) theses looking at English speakers acquiring other languages. French, Unidentified languages and Chinese as BL were all represented in 12 (21%) theses. Japanese was investigated from a BL perspective in 9 (16%) of the theses.

In terms of the most popular language being researched as the language to be acquired, English was by far the most popular with 43 (74%) theses investigating the acquisition of English as a second or third language. Other languages that were looked at in terms of being acquired included French and German (4; 7%) and Japanese and Spanish (3; 5%).

4.2.5 Number of Pages and Number of References

RQ7. What was the average number of pages of these theses?

RQ8. What was the average number of references cited in these theses?

The average (mean) number of pages across all 58 theses was 134. The median number of pages was 140. The mode number of pages was 72. The number of pages ranged from 57 to 264.
The average (mean) number of references was 80. The median number of references was 74. The mode was 119. The number of references ranged from 19 to 175.

With these two sets of numerical data, it was easy to determine if a correlation existed between them. As the chart below illustrates, no correlation was found between the number of pages and the number of references.

![Figure 8 Correlation between Number of Pages and Number of References](image)

Correlation coefficient: 0.28543

Departments and Master's student researchers may benefit from having some rough guidelines to consider in terms of the mean and the range of the number of pages that other Master's students are writing. Additionally, the mean and the range of the number of references that graduate students are citing in their thesis work may also provide useful guidelines to stakeholders involved with the production of Master's theses.
This concludes the presentation of the results and discussion. The following chapter, the fifth and final chapter concludes the thesis.
Chapter 5 - Conclusion

Section 5.1 provides a summary of the thesis and its findings. The implications, limitations and further research are presented in section 5.2. Section 5.3 provides overall reflections.

5.1 Summary of the Thesis

This thesis provides a snapshot of recent Master’s student work completed at Canadian universities in Second Language Teaching and Learning (SLTL) from 2008 to 2010. In particular, the thesis investigated trends in the use of Research Paradigms, Research Methods and Statistical Analyses.

Though quantitative research dominated as the preferred paradigm, qualitative and mixed methods research were more highly represented when compared to previous studies investigating the paradigms used in academic journal article research.

The most popular Research Methods were interviews and surveys/questionnaires.

The most common type of Statistical Analyses were Descriptive Statistics, represented in 100% of theses using statistics. Of inferential statistics, t-tests were most common, followed by ANOVA. Non-parametric Chi-square tests were minimally represented.
Secondary research questions measured word frequency for terms relating to research paradigms (Qualitative, Quantitative, Mixed and Triangulation) to measure the awareness of these terms by graduate students.

The study also discussed the number of theses conducting research on human participants and found that almost 80% did. The thesis identified a small but puzzling discrepancy between those numbers and the numbers demonstrating awareness of ethical consideration in their thesis report.

Base and Target Languages that were represented in the theses were analyzed. Forty-two different languages were represented overall, reflecting great diversity in language representation. However, English was the most prevalent language by far, especially as a Target Language where it was represented in 74% (n=43) of the theses.

Finally, the average number of page numbers (n=134) and the average number of references cited in each thesis (n=80) was reported.

5.2 Implications, Limitations and Further Research

Implications

One of the goals in conducting this research was to help other Master's students better understand research characteristics of the work of their peers. With the information provided in this thesis, other Master's students may decide to follow in the footsteps of their successful peers. Alternatively, they may see a
gap as an opportunity for them to try something that has not been done before by their peers.

Other academic stakeholders who may benefit from these results include: thesis supervisors, curriculum developers, professors and others that provide support to students such as librarians who provide research help and writing centre staff who provide writing help.

Finally, this research provides a snapshot of graduate student research at one particular point in time. Each of the research questions addressed in this thesis could be considered for a snapshot of graduate student research during another period of time in the future, and the results could be compared to the results found here.

Limitations

Limitations in this thesis were a result of limitations related to the methodology.

For example, in selecting the list of theses to include in the sample, I relied primarily on the PQDT database and secondarily on UBC’s clRcle (institutional repository). Theses from universities not including their theses in the PQDT database or in a highly accessible institutional repository such as the University of British Columbia’s clRcle were left out. The effect of this limitation may be quite minor, however, as several checks were designed into the process to reduce this risk.
Also as part of the process for selecting the list, a great deal of subjectivity was involved in the subject analysis of each thesis which determined its inclusion or exclusion.

Once I had the list of theses, the main research method I employed was content analysis. Content analysis is considered to be a "reasonably reliable method" especially if more than one researcher was involved in the analysis which can then allow for interrater reliability to be measured (McNeil, 2005, p.163). In this particular study, only one researcher was involved in the analysis, thus interrater reliability could not be measured.

Another limitation associated with content analysis is the fact that, though it counts instances of words or categories, it ignores questions that address why a particular phenomenon might be occurring (McNeil, 2005, p. 164). Though I discussed possible answers to why questions, my research design did not include methodologies that would have allowed me to answer these questions with more certainty.

More subjectivity was involved in the classification of these based on Research Paradigms. Though the process was designed to be as objective as possible, using a form as a guideline creating processes as similar to automated processes as possible, this did not reduce subjectivity altogether.

For Research Methods and Statistical Analyses, the themes emerged from the data rather than having been pre-determined. It may be difficult to
replicate this part of the study in such a way that the results of future work can be compared to the current work.

Further Research

Further research may want to look at some of the relationships between the data sets made available as a result of this research work. For example, questions still to be answered include: What is the relationship between the number of pages in each thesis and the research paradigm? What is the relationship between the number of references in each thesis and the research paradigm? What is the relationship between the use of the words ‘Quantitative’, ‘Qualitative’, ‘Mixed’ and ‘Triangulation’ and the research paradigm?

Additionally, this study focused on one particular area of Applied Linguistics: Second Language Teaching and Learning. However, the field includes so much more diversity than just this one subfield.

It would be fascinating to consider what paradigms are being used in emerging sub disciplines that have not been influenced so greatly by the tradition of quantitative research paradigms. What research methods are emerging from these sub disciplines that may not be represented at all in the more traditional sub discipline that this thesis focused on?

Previously mentioned, this thesis did not adequately address questions that ask why the numbers are as shown. This research study could benefit from being triangulated with the help of another researcher using more qualitative approaches to the research questions of this study.
5.3 Reflections

I learned many unexpected things throughout the course of this research study. For example, although Creswell (2009) stated that quantitative research is reported in a structured way ("introduction, literature and theory, methods, results, and discussion") and qualitative research is reported in a more flexible way, I found that all theses, regardless of their Research paradigm, followed this structured order.

Perhaps this could be due to the there being a Master's thesis genre that identifies strongly with this structure, so much so that it trumps the Qualitative report writing genre that might have a more flexible style.

Alternatively, it may be that qualitative researchers overall, not only at the Master's level, are opting to used this particular reporting structure because of its merits as an effective communicative tool.

I was surprised by how difficult it was to select a collection of Master's student theses based on a subject. I continue to be surprised by the lack of subject headings available in databases such as PQDT. Despite the diversity of the field, subject terms are limited to 'Linguistics' and 'Language Arts'. Currently, there is no finer distinction available than that and I think this greatly limits researchers' ability to locate research on specific areas of interest.

This research has shown me that an opportunity exists for databases such as PQDT and LLBA to introduce indexing of research articles based on more than just their subject content. For example, research may be greatly improved if
researchers could search for research on a topic by Research Paradigms or Research Methods. This could help researchers identify not only gaps in the literature in terms of content, but also gaps in the literature in terms of research methodology. PsycINFO provides indexing of this sort to researchers in Psychology. For example, results can be limited to journal articles reporting results from qualitative studies or those from quantitative studies.

Related to this, the findings from this study showed that Master's students seem to have gravitated towards the more traditional paradigms and, perhaps, the more familiar research methods.

Though some researchers (Lazaraton, 2000; 2002; 2005) suggest the need for researchers to conduct mixed methods studies that allow for triangulation, I suggest that, if the tools available to researchers better allowed them to assess where gaps in methodology existed, the researchers as a collective group could triangulate data across research studies. Though the results of this study have shown that Master's level researchers are more than capable of Mixed methods research, there is also an argument to be made for specialization in research designs and methods.
References


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Appendix A – Form Used to Classify Theses by Research Paradigm

Name of Thesis Author: __________________________

Mark the box that best describes the research paradigm used in this thesis based on the answers to the questions on this form.

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Quantitative Mixed</th>
<th>Mixed</th>
<th>Qualitative Mixed</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

---

Q1. Do the research method, data collection and data analysis involve words or numbers?

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Mixed</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers</td>
<td>Elements of Both Quantitative and Qualitative</td>
<td>Words</td>
</tr>
</tbody>
</table>

Q2. Do the questions asked by the researcher, either as research questions or within the research methods, involve closed-ended questions or open-ended questions?

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Mixed</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed-ended Questions</td>
<td>Elements of Both Quantitative and Qualitative</td>
<td>Open-ended Questions</td>
</tr>
</tbody>
</table>

Q3. Does the research method lend itself to collecting data quantitatively or qualitatively?

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Mixed</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative Research Methods</td>
<td>Elements of Both Quantitative and Qualitative</td>
<td>Qualitative Research Methods</td>
</tr>
</tbody>
</table>
Q4. Does the Table of Contents follow a set structure (introduction, literature and theory, methods, results, and discussion) or a flexible structure?

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Mixed</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set Structure</td>
<td>Elements of Both Quantitative and Qualitative</td>
<td>Flexible Structure</td>
</tr>
</tbody>
</table>

Q5. Does the research test objective theories or explore and understand the meaning of a problem?

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Mixed</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tests Objective Theories</td>
<td>Elements of Both Quantitative and Qualitative</td>
<td>Explore and Understand the Meaning of a Problem</td>
</tr>
</tbody>
</table>

Q6. Does the research involve deductive logic or inductive logic?

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Mixed</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deductive Logic</td>
<td>Elements of Both Quantitative and Qualitative</td>
<td>Inductive Logic</td>
</tr>
</tbody>
</table>

Q7. Does the research examine the relationship among variables, protect against bias and control for alternative explanations, or does it involve the emergence of questions and procedures, taking place in the participant's setting with the researcher making interpretations of the data?

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Mixed</th>
<th>Qualitative</th>
</tr>
</thead>
</table>
| - Examines the relationship among variables  
- Protects against bias  
- Controls for Alternative Explanations | Elements of Both Quantitative and Qualitative | - Emerging Questions and Procedures  
- Collects Data in the Participant's Setting  
- Builds from Particulars to Themes  
- Researcher Makes Interpretations of the Data |

Q8. Can the results be generalized and can the study be replicated or are the situations too complex that the research results cannot be generalized or replicated?

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Mixed</th>
<th>Qualitative</th>
</tr>
</thead>
</table>
| - Able to Generalize and Replicate Findings | Elements of Both Quantitative and Qualitative | - Involves Complex Situations  
- Cannot be Generalized or Replicated |
Appendix B – Explanation of Form Used to Classify Theses by Research Paradigm

This appendix describes the rationale behind each question included on the form I used to classify each thesis by Research Paradigm.

**Q1:** Do the research method, data collection and data analysis involve words or numbers?

**Q2:** Do the questions asked by the researcher, either as research questions or within the research methods, involve closed-ended questions or open-ended questions?

Q1 and Q2 address data collection and analysis and are based on Creswell’s point that, “Often, the distinction between qualitative and quantitative research is framed in terms of using words (qualitative) rather than numbers (quantitative), or using closed-ended questions (quantitative hypotheses) rather than open-ended questions (qualitative interview questions)” (Creswell, 2009, p.3).

**Q3:** Does the research method lend itself to collecting data quantitatively or qualitatively?
Q3 relates to research methods. "A more complete way to view the gradations of differences between (qualitative and quantitative approaches) is in the basic philosophical assumptions researchers bring to the study, the types of research strategies used overall in the research (e.g., quantitative experiments or qualitative case studies), and the specific methods employed in conducting these strategies (e.g., collecting data quantitatively on instruments versus collecting qualitative data through observing a setting)" (Creswell, 2009, p. 3-4).

Examples provided by Creswell (2009, p. 12):

<table>
<thead>
<tr>
<th>Table 1.2 Alternative Strategies of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quantitative</strong></td>
</tr>
<tr>
<td>- Experimental</td>
</tr>
<tr>
<td>- Non-experimental design, such as surveys</td>
</tr>
<tr>
<td><strong>Qualitative</strong></td>
</tr>
<tr>
<td>- Narrative research</td>
</tr>
<tr>
<td>- Phenomenology</td>
</tr>
<tr>
<td>- Ethnographies</td>
</tr>
<tr>
<td>- Grounded theory studies</td>
</tr>
<tr>
<td>- Case study</td>
</tr>
<tr>
<td><strong>Mixed Methods</strong></td>
</tr>
<tr>
<td>- Sequential</td>
</tr>
<tr>
<td>- Concurrent</td>
</tr>
<tr>
<td>- Transformative</td>
</tr>
</tbody>
</table>

Q4: Does the Table of Contents follow a set structure (introduction, literature and theory, methods, results, and discussion) or a flexible structure?

Q4 focused on the structure of the report. According to Creswell (2009) discussing quantitative research, "[t]he final report has a set structure consisting of introduction, literature and theory, methods, results, and discussion" (Creswell, 2008 in Creswell, 2009, p.4) whereas in qualitative research "[t]he final report has a flexible structure" (Creswell, 2009, p. 4).
Q5: Does the research test objective theories or explore and understand the meaning of a problem?

Q5 is based on Creswell (2009) who states that "[q]uantitative research is a means for testing objective theories by examining the relationship among variables" whereas "qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (p. 4).

Q6: Does the research involve deductive logic or inductive logic?

Q6 derives from Creswell's (2009) discussion on quantitative research as "testing theories deductively" while qualitative research involves analyzing data inductively (p.4).

Q7: Does the research examine the relationship among variables, protect against bias and control for alternative explanations or does it involve the emergence of questions and procedures, taking place in the participant's setting with the researcher making interpretations of the data?
Q7 was developed from Creswell's (2009) suggestion that quantitative research "examines the relationship among variables", protects against bias and controls for alternative explanations (p. 4). However, qualitative research "involves emerging questions and procedures" and "data typically collected in the participant's setting" (p. 4).

**Q8:** Can the results be generalized and can the study be replicated or are the situations too complex that the research results cannot be generalized or replicated?

Creswell (2009) states that quantitative data can be generalized and replicated whereas he does not suggest that qualitative research can be generalized or replicated.

Finally, Creswell (2009) states that "Mixed methods research is an approach to inquiry that combines or associates both qualitative and quantitative forms" (p. 4). For this reason, the 'mixed' sections on the form are shown to represent elements of both quantitative and qualitative.

Q8 is based on these ideas from Creswell (2009).
Appendix C – The Collection of 208 Theses


Burgess, J. (2009). Reduplication and initial change in sheshatshiu innu-aimun. (M.A., Memorial University of Newfoundland).


Casiro, J. (2008). Onset density and inhibitory effects on lexical access in speech production. (M.Sc., University of British Columbia).


Lipka, O. (2010). Reading comprehension skills of grade 7 students who are learning English as a second language. (M.A., University of British Columbia).


May, L. (2010). What is a word: understanding developmental changes in the sounds infants accept as possible labels. (M.A., University of British Columbia).


Wilson, T. (2009). In their own best interests? textually mapping governmentality in the lives of young people without stable housing in Canada. (M.S.W., University of Toronto).


Appendix D – The Collection of 58 Theses


Lipka, O. (2010). Reading comprehension skills of grade 7 students who are learning English as a second language. (M.A., University of British Columbia), 57.


Pokorny, B. (2009). Language frequency profiling of written texts by students of German as a foreign language. (M.A., University of Waterloo), 89.


Walker, N. (2009). The development and feasibility of a speech recognition-enabled virtual patient for training francophone nurses to conduct medical history interviews in English. (M.A., Concordia University), 162.


